

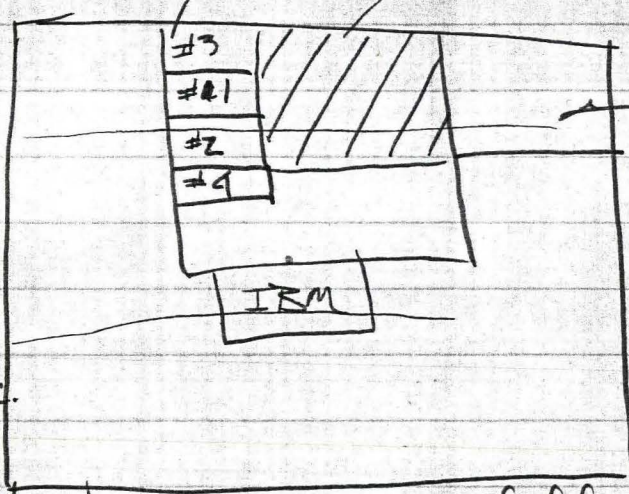
PA/WLD/COL COLUMBINE ST

1/4

Caidlaw

chronology.

South property



Pratt property 35ac.

* rural dump site

* BFI possibly involved. 75-76 (probably leased it)

* unpermitted site

* well #6 (old well, now abandoned 1985/86) in draw on west side of Pratt property

1982 Kierns applied to expand on to Pratt property by Barbara adding additional lifts; closure all

Ralph Rowiter ran Pratt ~ 1977-79 (ran Weld County sites)

Kierns 1979 bought from Rowiter. → bought from BFI

Rowiter died in 1979

many ~~deep excavations~~ areas of subsidence (trash compaction) uneven surface. ∴ water ponding formed west side of Pratt property - possibly road subsurface road!

no excavation for dumping -

June 1st
Kierns * 1979 (Caidlaw S. site) 160 ac. have been some filling on the project already - permitted.
* 1982 applied to expand onto Pratt property
* Kierns called this site Columbine (Colorado Landfill, Inc)

scarified & recompact.

6" recompact

- * liernes plan called for clay liner however don't know if it's still in.
- * however liernes did not finish off Pratt
- * fill method - some excavation by area method into draw.

had compactor units.

- * had ground water monitoring. ~ 8-6

fill
area

lyn liernes sold to Jerry Sanders

Western never filled pit virgin ground

Western 12/85 bought property from liernes

Disposal ICI was in process of developing new operation plans, filled, disposed & closed Pratt property, had to put in lifts as high as 18 ft. - ~~did~~ did up

Laidlaw 1/88 permit transferred. some excavation on Pratt on south side, 12 corners - excavated.

Pratt property basically to gravel
had to submit closure & maintenance for Pratt property.

monitoring wells on Pratt property
GW 6 abandoned

GW 1, 7, 4, 6 liernes

GW 12 Laidlaw well.

possible gw well along south border Pratt prop.
reine was already filled w/ trash prior to Laidlaw.

laidlaw south under jurisdiction of Weld County ^{3/4}

Laidlaw had RCI develop operations plan
: pratt closure

~~assess~~ pratt
construction.

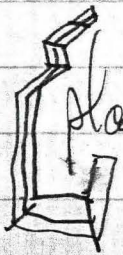
during excavation did not encounter liernes lines.

leachate detect in NW corner cell 1

Cells #1; #2 first cells laidlaw filled, clay 6 in.
scarified & recompact, sloped to south.
west, berm keyed to lines on west end.

Cell #3. not keyed to cell #1 leachate collection
system w/ own sump.

Currently info Cell #4, excavated, base & grades
scarified & recompact.



plan to develop a subtitle D type redesign

Laidlaw owns 160 ac. Pratt still owns pratt

Laidlaw North ^{property} 80 ac.

first trash 12/13/84 - CD from town of Erie
Don Horst original developer, property annexed by

erie Nov 8, 1984 AKA Landfill Systems.

Horst had operations plan prepared by hydrosarch

Horst sold to GSX Aug 18, 1986

Laidlaw purchased GSX Nov 1986 GSX corporation

The town of Erie required GSX to develop
new plan, as part of permit transfer.

GSX purchased by Laidlaw

GSX still owns land - but Laidlaw
owns GSX
under jurisdiction of Erie

Worst - scenario: recompact east side. Then 1 to
liner over ss: fracture CS only \Rightarrow 2 ft. North side.
then GSX took over 1 to 3 ft over ss.
fracture CS

currently Cell #6 leachate collection - sump.
lined 3 ft over ss: frac CS; 6" over
remaining.

gws 13 wells on north site.

Request to modify the types of special wastes
to north

Cell #6. 3500 gallons from leachate collection sump.
15 ft of trash over as daily covers
leachate collection system

~~For Ref file~~

#COD980635379

COLORADO LANDFILL INC.

1750 WELD RD #6

ERIE Co 80516

123 WELD

IS THE SAME FACILITY AS

#COD980951735

COLUMBINE LANDFILL

1750 WELD RD. #6

ERIE Co 80516

123 WELD

PLEASE SEE THE LATTER FILE.

3/17/88

3/17/88

CORRECTION OF COD NUMBERS.

COLORADO LANDFILL INC IS #COD980635379
A.K.A.

COLUMBINE LANDFILL IS #COD980951735

ALL INFORMATION FOR THESE SITES IS
LOCATED ~~#~~ UNDER COLUMBINE LANDFILL.

PA/WCD / COLUMBINE ST

MEMORANDUM

Terracon

ENVIRONMENTAL, INC.

1609 OakRidge Drive, Suite 101
Ft. Collins, Colorado 80525
Phone (303) 226-5611

Date: 1/11/90

To: Colorado Dept of Health

4210 E. 11th Ave.

Denver, Colorado 80220-3716

JAN 14 1991

Attention:

Austin Buckingham, Hazardous Materials and Waste Management

Re:

Eric Landfill Drilling

Job No:

43905076

Remarks:

Austin,

This memo is to confirm your conversation with

Dave Rau that set up the drilling for the Eric

Landfill project on January 28th and 29th. Please

contact us if this schedule changes or if you

have any questions.

Yours truly,

TERRACON ENVIRONMENTAL, INC.

By:

Curt Palin

Name > Austin Buckingham Location > S¹/₂ Sec 20 and Sec 21
Site Name > Columbine Creek Date > T1N, R68W

PA QUESTIONNAIRE

MAJOR CONSIDERATIONS

- A) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT MAY INDICATE AN OBSERVED RELEASE TO AIR, GROUND WATER, SOIL OR SURFACE WATER? > YES

Describe:

> shallow ground water contamination in SCLZ
> confirmed industrial disposal by IBM and Sundstrand

- B) IF THE ANSWER TO #1 IS YES, IS THERE EVIDENCE OF DRINKING WATER SUPPLY CONTAMINATION OR ANY OTHER TARGET CONTAMINATION (i.e. food chain, recreation areas, or sensitive environments)? > NO

Describe:

>
>

- C) ARE THERE SENSITIVE ENVIRONMENTS WITHIN A 4-MILE RADIUS OR 15 DOWNSTREAM MILES OF THE SITE? > NO IF YES, DESCRIBE IF ANY OF THE FOLLOWING APPLY:

- Multiple sensitive environments? >

>

- Federally designated sensitive environment(s)? >

>

- Sensitive environment(s) downstream on a small or slow flowing surface water body? >

>

- D) IS THE SITE LOCATED IN AN AREA OF KARST TERRAIN? > NO

Describe:

>

- E) DOES THE WASTE SOURCE LIE FULLY OR PARTIALLY WITHIN A WELLHEAD PROTECTION AREA AS DESIGNATED ACCORDING TO SECTION 1428 OF THE SAFE DRINKING WATER ACT? > NO

Describe:

>

- F) DOES ANY QUALITATIVE OR QUANTITATIVE INFORMATION EXIST THAT PEOPLE LIVE OR ATTEND SCHOOL ON ONSITE CONTAMINATED PROPERTY? > NO

Describe:

>

>

SITE INFORMATION

1. SITE NAME: > Columbine Landfill
ADDRESS: > 1441 Weld County Road 6 P.O. Box 320
CITY: > Erie COUNTY: > Weld STATE: > Co ZIP: > 80516
EPA ID: > COD 980151735
LATITUDE: > 105°1'40" LONGITUDE: > 10°1'15"

2. DIRECTIONS TO SITE (From nearest public road): > I 25, take Erie
> Exit, go west 2 miles to Weld County Road #5, go south
> one mile, site occupies the NE1/4, W1/4, E1/4 NW Section 29
> and S1/4 SW1/4 Section 20, T1N, R69W, at intersection WCR 5:6

3. SITE OWNERSHIP HISTORY (Use additional sheets, if necessary):

A. Name of current owner: > Laidlaw Waste Systems Inc.
Address: > 1441 Weld County Road PO Box 320
City: > Erie County: > Weld State: > Co Zip: > 80516
Dates: From > 1/88 To > present Phone: > 303 673 9431

B. Name of previous owner: > Western Disposal, Inc.
Address: > 5830 Butte Mill Road.
City: > Boulder County: > Boulder State: > Co Zip: > 80301
Dates: From > 12/85 To > 1/88 Phone: > 303-444-2037

Source of ownership data: > CDE file

4. TYPE OF OWNERSHIP (Check all that apply):

>X Private > State > Municipal
> Federal > County > Other (describe): >

5. NAME OF SITE OPERATOR: > Gridlaw Waste Systems
ADDRESS: > 1441 Weld County Road 6 - P.O. Box 320
CITY: > Eric COUNTY: > Weld STATE: > CO ZIP: > 80516
PHONE: > 303.673.1431

BACKGROUND/OPERATING HISTORY

6. DESCRIBE OPERATING HISTORY OF SITE: > 1965-1968: lawhouses operated MSW and industrial chemical disposal on Pratt property. BFI and Robles operated MSW > county landfill on Pratt property 1970-1979; 1979-1985 Colorado Landfill, Inc., operated Columbine Landfill; 1985-1988 Western Disposal operated Columbine; 1988-present Gridlaw operated Columbine, renamed it to Gridlaw South.
Source of information: > CDH file and interviews.

7. DESCRIBE SITE AND NATURE OF SITE OPERATIONS (property size, manufacturing, waste disposal, storage, etc.): > Pratt property is 35 ac. > chemical waste from IBM; torpedos propellant from Sandstrand Aviation brought to site then buried and MSW. The Columbine site, 160 ac accepted MSW and > sand trap waste. The site was rarely covered. -> Gridlaw North, 80 ac accepted MSW.
Source of information: > CDH file and interviews

8. DESCRIBE ANY EMERGENCY OR REMEDIAL ACTIONS THAT HAVE OCCURRED AT THE SITE:
> July 1968 a chemical fire occurred on the Pratt property.
> Throughout the operation of the site, open burning was a continual problem requiring fire dept. response.
Source of information: > CDH file.

9. ARE THERE RECORDS OR KNOWLEDGE OF ACCIDENTS OR SPILLS INVOLVING SITE WASTES? > yes
Describe: > In drainage to the south of the site, liquid and solid waste disposal has occurred
>
Source of information: > interviews and site visit (08/20/90)

10. DISCUSS EXISTING SAMPLING DATA AND BRIEFLY SUMMARIZE DATA QUALITY (e.g., sample objective, age/comparability, analytical methods, detections limits and QA/QC):

> Current monitoring consists of ground water and surface water (Coal Creek). Coal Creek does not show any obvious contamination.
> The on-site monitoring wells are screened to the shallow alluvial ground water system and a bedrock saturated unit. The predominantly carbonate bedrock ground water shows effects of some water quality degradation in the form of elevated chloride, sulfate, nitrate, sodium. Well 103A-B₁ show halogenated organic contamination. All analytical methods are EPA methods appropriate for the constituent.
Source of information: > CDH file - monitoring reports

WASTE CONTAINMENT/HAZARDOUS SUBSTANCE IDENTIFICATION

11. FOR EACH SOURCE AT THE SITE, SUMMARIZE ON TABLE 1 (page 12): 1) Methods of hazardous substance disposal, storage or handling; 2) size/volume/area of all features/structures that might contain hazardous waste; 3) condition/integrity of each storage disposal feature or structure; and 4) types of hazardous substances handled.

12. BRIEFLY EXPLAIN HOW WASTE QUANTITY WAS ESTIMATED (e.g., historical records or manifests, permit applications, air photo measurements, etc.):

> IBM: 1500 55 gallon drums of chemical waste disposed on Pratt property.
> Sandstrom: unknown quantity of torpedos repellant.
> disposed in containers lined pits then burned. 3) unknown quantity of unknown chemical waste disposed in pits 4) 8,700,000 cy / solid waste
Source of information: > EPA Notification Interviews with Newhouser, CD4 file.

13. DESCRIBE ANY RESTRICTIONS OR BARRIERS ON ACCESSIBILITY TO ONSITE WASTE MATERIALS:

The old Erie Landfill
> had unrestricted access and was not attended from 1965-1979.
> County road existed with entrance to site since 1965
Source of information: > Interviews, aerial photo 1972-1974
After 1979 the Columbine Landfill adjacent to the Pratt property was fenced and attended.

GROUND WATER CHARACTERISTICS

14. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF A RELEASE TO GROUND WATER? > yes
Describe: > GW6 (now decommissioned) showed small levels of
> VOC contamination, 103A & 103B show alluvial contamination with
halogenated organics.
Source of information: > monitoring reports in CDH file
15. ON TABLE 2 (page 13), GIVE NAMES, DESCRIPTIONS, AND CHARACTERISTICS OF GEOLOGIC/HYDROGEOLOGIC UNITS UNDERLYING THE SITE.
16. NET PRECIPITATION: > 15 inches/year

SURFACE WATER CHARACTERISTICS

17. ARE THERE SURFACE WATER BODIES WITHIN 2 MILES OF THE SITE? > yes
> X Ditches > Lakes > X Pond
> X Creeks > Rivers > X Other > dry drainages
18. DISCUSS THE PROBABLE SURFACE RUNOFF PATTERNS FROM THE SITE TO SURFACE WATERS:
> Surface runoff on natural topography occurs by sheet runoff
> into trellis patterned drainages, until it reaches Coal Creek one
mile to the west of the site.
19. PROVIDE A SIMPLIFIED SKETCH OF SURFACE RUNOFF AND SURFACE WATER FLOW SYSTEM FOR 15 DOWNSTREAM MILES (see item #36).
20. ANY POSITIVE OR CIRCUMSTANTIAL EVIDENCE OF SURFACE WATER CONTAMINATION?
> yes Describe: > Coal Creek has been sampled at three sample
> points for 5 years; it is uncontaminated. The drainage to south of site
shows stressed vegetation in the western most pond.
Source of information: >
Laidlaw monitoring and site visit (08/20/90)
21. ESTIMATE THE SIZE OF THE UPGRADIENT DRAINAGE AREA FROM THE SITE: 135 acres w/o road
Source of information: > topography maps

22. DETERMINE THE AVERAGE ANNUAL STREAM FLOW OF DOWNSTREAM SURFACE WATERS

Water body: > Coal Creek Flow: > 5-25 cfs

Water body: > Boulder Creek Flow: > 20-100 cfs

Water body: > St. Jean Creek Flow: > 50-150 cfs

Source of information: > Laidlaw North Operations Report, District #6 water Commissioner

23. IS THE SITE OR PORTIONS THEREOF LOCATED IN SURFACE WATER? > NO

24. IS THE SITE LOCATED IN A FLOODPLAIN (indicate flood frequency)? > NO

25. IDENTIFY AND LOCATE (see item #36) ANY SURFACE WATER RECREATION AREA WITHIN 15 DOWNSTREAM MILES OF THE SITE: > non-identified

> _____

> _____

Source of information: > topographic map

26. TWO YEAR 24-HOUR RAINFALL: > 2.1 inches

TARGETS

27. DISCUSS GROUND WATER USAGE WITHIN FOUR MILES OF THE SITE: > _____

> Alluvial > irrigation, stock, lawn watering

> Shallow bedrock > irrigation, stock, lawn, watering, some domestic

> Laramie-Fox Hills > primarily domestic.

Source of information: > State Engineers Office

28. SUMMARIZE THE POPULATION SERVED BY GROUND WATER ON THE TABLE BELOW:

Distance
(miles)

Population

> 0 - 1/4

> 1 residence Laramie-Fox Hills

> 1/4 - 1/2

> 1 residence Laramie-Fox Hills.

> 1/2 - 1

> 4 residences alluvial

>1 - 2

>120 residences: alluvial, shallow bedrock, Laramie Fox Hills

>2 - 3

>150 residences: alluvial, shallow bedrock, Laramie Fox Hills.

>3 - 4

>150 residences:

Source of information:

> State Engineers Office

29. IDENTIFY AND LOCATE (see item #36) POPULATION SERVED BY SURFACE WATER INTAKES WITHIN 15 DOWNSTREAM MILES OF THE SITE: > unknown

>

>

>

>

Source of information: >

30. DESCRIBE AND LOCATE FISHERIES WITHIN 15 DOWNSTREAM MILES OF THE SITE (i.e., provide standing crop of production and acreage, etc.):

> There are no fisheries within 15 downstream miles of the site.

>

>

Source of information:

> Co Division of Wildlife, topographic map.

31. IF SURFACE WATER RECREATION AREAS EXIST, CHOOSE RECREATIONAL USE CATEGORY, AND THEN DETERMINE THE POPULATION WITHIN THE ASSIGNED RADIUS FROM THE RECREATION AREA. (Use GEMS to allocate into distance rings).

a. Capital use and access improvements > (assigned radius = 125 miles)

b. Access improvements only > (assigned radius = 80 miles)

c. Observed use only > (assigned radius = 40 miles)

d. None of the above apply and access is not restricted > (assigned radius = 10 miles)

<u>Distance</u> (miles)	<u>Population</u>
>0 - 5	> _____
>5 - 10	> _____
>10 - 20	> _____
>20 - 40	> _____
>40 - 60	> _____
>60 - 80	> _____
>80 - 100	> _____
>100 - 125	> _____

32. DETERMINE THE DISTANCE FROM THE SITE TO THE NEAREST OF EACH OF THE FOLLOWING LAND USES

<u>Description</u>	<u>Distance</u> (miles)
Commercial/Industrial	> 1 mile
Institutional	> 1/4 mile
Single Family Residential	> 1 mile
Multi-Family Residential	> 1 mile
Park	> _____
Agricultural	> adjacent to site

Source of information: > topographic map

33. SUMMARIZE THE POPULATION WITHIN A FOUR-MILE RADIUS OF THE SITE:

<u>Distance</u> (miles)	<u>Population</u>
onsite	> 22
>0 - 1/4	> 2
>1/4 - 1/2	> 3

> 1/2 - 1 > 16
> 1 - 2 > 1500
> 2 - 3 > 600
> 3 - 4 > 600

Source of information: > Town of Erie, Estimated at 4 persons/
household

OTHER REGULATORY INVOLVEMENT

34. DISCUSS ANY PERMITS:

County: > Certificate of Designation Old Erie Landfill 1968
State: > APCD permit - Landlaw South 1979 and 1987
Federal: > none
Other: > Landlaw North Annexed by town of Erie in 1985

Source of information: > CDH files

TABLE 1
WASTE CONTAINMENT AND HAZARDOUS SUBSTANCE IDENTIFICATION¹

SOURCE TYPE	SIZE (Volume/Area)	ESTIMATED WASTE QUANTITY	SPECIFIC COMPOUNDS	CONTAINMENT ²	SOURCES OF INFORMATION
AD ERIC LANDFILL > 1500 55 gallon > drums > > >	> 1500 55 gallon > drums > > > >	> 84,000 gallons > > > > >	> Methyl-ethyl-ketone > > > > >	> 55 gallon drums > > > > >	> EPA Identification > CDH files > Interview >
> chemical waste > pits > > > >	> unknown > > > > >	> unknown > > > > >	> unspecified organics > inorganics, solvents > acids and bases > >	> none > > > > >	> EPA Identification > CDH files. > > >
> waste pit > > > > >	> unknown > > > > >	> unknown > > > > >	> torpado pollutant > possibly > diethylene-glycol- > dinitrate >	> container lined > pit > > > >	> interview > CDH file > > > >
> land disposal of > sand and grease > top waste > >	> unknown > > > > >	> 100,000 gallons > > > > >	> unknown > > > > >	> none > > > > >	> CDH files > > > > >
> > > > > >	> > > > > >	> > > > > >	> > > > > >	> > > > > >	> > > > > >

1 Use additional sheets if necessary.

2 Evaluate containment of each source from the perspective of each migration pathway (e.g., ground water pathway - non-existent, natural or synthetic liner, corroding underground storage tank; surface water - inadequate freeboard, corroding bulk tanks; air - unstabilized slag piles, leaking drums, etc.)

TABLE 2
HYDROGEOLOGIC INFORMATION ¹

STRATA NAME/DESCRIPTION	THICKNESS (ft.)	HYDRAULIC CONDUCTIVITY (cm/sec)	TYPE OF DISCONTINUITY ²	SOURCE OF INFORMATION
> Alluvium/Colluvium > > > >	> 10-25 feet > > > >	> 10^{-3} to 10^{-9} > cm/sec > > >	> none > > > >	> CDH files > > > >
> Laramie formation > upper Laramie sandstone units > > >	> 300-400 feet > > > >	> 2.3×10^{-4} to > 9.3×10^{-4} cm/sec > > >	> confined to semi- > confined due to > tight claystone units > > >	> Department of > Natural Resources > > >
> Laramie formation > lower Laramie A; B sandstone units > > >	> 100-200 feet > > > >	> 1.6×10^{-3} to > 4.7×10^{-4} cm/sec > > >	> confined > > > >	> Department of > Natural Resources > > >
> Fox Hills > Milliken Sandstone > > >	> 20-100 feet > > > >	> 1.6×10^{-3} to > 4.7×10^{-4} cm/sec > > >	> confined > > > >	> Department of > Natural Resources > > >
> > > > > >	> > > > > >	> > > > > >	> > > > > >	> > > > > >

1 Use additional sheets if necessary.

2 Identify the type of discontinuity within four-miles from the site (e.g., river, strata "pinches out", etc.)



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

CO DY80951735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

Columbine Landfill; nearby properties

02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER

1441 Weld County Rd 6

03 CITY

Erive

04 STATE

CO

05 ZIP CODE

80516

06 COUNTY

Weld

07 COUNTY CODE

123

08 CONG DIST

09 COORDINATES

LATITUDE

40° 01' 15"

LONGITUDE

105° 01' 40"

1/2 SW Section 20, T1N, R68W; 80 AC

10 DIRECTIONS TO SITE (Starting from nearest public road)

I 25; take Erive Exit, go west to Weld City Rd #5, go south one mile; site occupies the NE 1/4, W 1/2 NE 1/4, E 1/2 NW Section 20; S 1/2 SW Section 20, T1N, R68W; at intersection of WCR 5 & 6

III. RESPONSIBLE PARTIES

01 OWNER (if known)

Laidlaw Waste Systems, Inc

02 STREET (Business, mailing, residential)

1441 Weld County Road #6

03 CITY

Erive

04 STATE

CO

05 ZIP CODE

80516

06 TELEPHONE NUMBER

(303) 673 9431

07

440-9601

07 OPERATOR (if known and different from owner)

Laidlaw Waste Systems, Inc

08 STREET (Business, mailing, residential)

1441 Weld County Road #6

09 CITY

Erive

10 STATE

CO

11 ZIP CODE

80516

12 TELEPHONE NUMBER

(303) 673 9431

08

440 9601

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE

☐ B. FEDERAL

(Agency name)

☐ C. STATE

☐ D. COUNTY

☐ E. MUNICIPAL

☐ F. OTHER

(Specify)

☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED:

MONTH DAY YEAR

☐ B. UNCONTROLLED WASTE SITE (RCRA 103 c) DATE RECEIVED:

MONTH DAY YEAR

☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES

DATE

03/20/90

☐ NO

09/07/90

BY (Check all that apply)

☐ A. EPA

☐ B. EPA CONTRACTOR

☒ C. STATE

☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL

☐ F. OTHER

(Specify)

CONTRACTOR NAME(S):

02 SITE STATUS (Check one)

☒ A. ACTIVE

☐ B. INACTIVE

☐ C. UNKNOWN

03 YEARS OF OPERATION

1984

present

☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

municipal solid wastes

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

ground water contamination to the alluvial and uppermost bedrock saturated zone
surface water contamination to the unnamed drainage and Coal Creek

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If more than one is checked, complete Part 2 - Waste Information and Part 3 - Description of Potential Contaminants and Exposure)

☐ A. HIGH

(Inspection required promptly)

☒ B. MEDIUM

(Inspection required)

☐ C. LOW

(Inspected on site within 90 days)

☐ D. NONE

(No further action required. Complete current field observation form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT

Rick Hoffman

02 OF (Agency/organization)

Laidlaw Waste Systems Inc

03 TELEPHONE NUMBER

(303) 673 9431

04 PERSON RESPONSIBLE FOR ASSESSMENT

Austin A. Beckingham

05 AGENCY

CDH

06 ORGANIZATION

AMWMD

07 TELEPHONE NUMBER

(303) 331 1830

08 DATE

10/05/90



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

CO 10980931735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

03 CITY

04 STATE 05 ZIP CODE

06 COUNTY

07 COUNTY CODE

08 CONG DIST

09 COORDINATES LATITUDE

LONGITUDE

E 1/2 NW 1/4 Section 29, T1N, R68W, 160 AC.

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (if known)

Laidlaw Waste Systems, Inc.

02 STREET (Business, mailing, residential)

1441 Weld County Road #6

03 CITY

Erie

04 STATE 05 ZIP CODE

CO 80516

06 TELEPHONE NUMBER

(303) 673-9431 440 9601

07 OPERATOR (if known and different from owner)

Laidlaw Waste Systems, Inc.

08 STREET (Business, mailing, residential)

1441 Weld County Road #6

09 CITY

Erie

10 STATE 11 ZIP CODE

CO 80516

12 TELEPHONE NUMBER

(303) 673-9431 440 9601

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL

☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL

☐ F. OTHER:

(Specify)

☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: MONTH DAY YEAR

☐ B. UNCONTROLLED WASTE SITE (RCRA 103 c) DATE RECEIVED: MONTH DAY YEAR

☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES DATE 03, 20, 90
MONTH DAY YEAR

☐ NO

BY (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR

☒ C. STATE

☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER:

(Specify)

CONTRACTOR NAME(S):

02 SITE STATUS (Check one)

☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

179

1 present

☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

municipal solid wastes, asbestos, oily sludges, sand and grease trap wastes.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

ground water contamination to the alluvial and uppermost bedrock saturated zone.
surface water contamination to the unnamed drainage and Coal Creek.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one, if high or medium is checked, complete Part 2 - Waste Inventory and Part 3 - Description of Potential Contaminants and Processes)

☐ A. HIGH

(Inspection required immediately)

☒ B. MEDIUM

(Inspection required)

☐ C. LOW

(Inspection on site within 90 days)

☐ D. NONE

(No further action needed, complete current evaluation report)

VI. INFORMATION AVAILABLE FROM

01 CONTACT

Rick Hoffman

02 OF (Agency/organization)

Laidlaw Waste Systems Inc.

03 TELEPHONE NUMBER

(303) 673-9431

04 PERSON RESPONSIBLE FOR ASSESSMENT

Austin H. Buckingham

05 AGENCY

CDA

06 ORGANIZATION

HMWMD

07 TELEPHONE NUMBER

(303) 331-4830

08 DATE

10 05 90
MONTH DAY YEAR

Laidlaw South



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

CO 0980951735

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

03 CITY

04 STATE

05 ZIP CODE

06 COUNTY

07 COUNTY CODE

08 CONG DIST

09 COORDINATES LATITUDE

LONGITUDE

NEAR Section 29, T1N, R68W; 35AC.

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (if known)

Kenneth Pratt

02 STREET (Business, mailing, residential)

1960 Industrial Circle

03 CITY

Longmont

04 STATE

05 ZIP CODE

06 TELEPHONE NUMBER

CO 80502

(303) 776 4496

07 OPERATOR (if known and different from owner)

John F. Naehausen

08 STREET (Business, mailing, residential)

P.O. Box 454

09 CITY

Saratoga

10 STATE

11 ZIP CODE

12 TELEPHONE NUMBER

AI 36571

(209) 675-9366

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL

☐ C. STATE

☐ D. COUNTY

☐ E. MUNICIPAL

☐ F. OTHER:

☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check at this entry)

☐ A. RCRA 3001 DATE RECEIVED: MONTH DAY YEAR

☐ B. UNCONTROLLED WASTE SITE (RCRA 103 c) DATE RECEIVED: MONTH DAY YEAR

☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

☒ YES

DATE

08, 20, 80

☐ NO

BY (Check at this entry)

☐ A. EPA

☐ B. EPA CONTRACTOR

☒ C. STATE

☐ D. OTHER CONTRACTOR

☐ E. LOCAL HEALTH OFFICIAL

☐ F. OTHER:

(Specify)

CONTRACTOR NAME(S):

02 SITE STATUS (Check one)

☐ A. ACTIVE

☒ B. INACTIVE

☐ C. UNKNOWN

03 YEARS OF OPERATION

1965

1979

finally closed 1983

☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

for toxic propellant from Swindstrand Aviation; MEK and other unspecified organics, inorganics, solvents acids and bases from IBM (see part 2, IV for possible substances)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

ground water contamination to the alluvial and uppermost bedrock saturated zone
surface water contamination to the unnamed drainage and Coal Creek

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Investigation and Part 3 - Characterization of Potential Contaminants and Response)

☐ A. HIGH

☒ B. MEDIUM

☐ C. LOW

☐ D. NONE

VI. INFORMATION AVAILABLE FROM

01 CONTACT

John F. Naehausen; Kenneth Pratt

02 OF (Agency/Organization)

03 TELEPHONE NUMBER

209, 675-9366
303, 776-4496

04 PERSON RESPONSIBLE FOR ASSESSMENT

Austin A. Buckingham

05 AGENCY

CDH

06 ORGANIZATION

HMWMD

07 TELEPHONE NUMBER

(303) 331-4830

08 DATE

10, 05, 90
MONTH DAY YEAR

OLD ERIC
LANDFILL



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I IDENTIFICATION

01 STATE 02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID
☐ B. POWDER, FINES
☒ C. SLUDGE
☐ D. OTHER _____ (Specify)
☐ E. SLURRY
☒ F. LIQUID
☐ G. GAS

02 WASTE QUANTITY AT SITE

(Measure of waste quantity)
(Must be representative)
C. 100,000 gallons
A. CUBIC YARDS 8600,000
F. NO. OF DRUMS 1500 liquid

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
☒ B. CORROSIVE
☐ C. RADIOACTIVE
☒ D. PERSISTENT
☐ E. SOLUBLE
☐ F. INFECTIOUS
☐ G. FLAMMABLE
☐ H. IGNITABLE
☒ I. HIGHLY VOLATILE
☒ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	65,000	gallons	sand trap waste
OLW	OILY WASTE	30,000	gallons	oil & grease
SOL	* SOLVENTS			
PSD	PESTICIDES			
OCC	* OTHER ORGANIC CHEMICALS			* 84,000 gallons + unknown quantity of torpedo propellant
IOC	* INORGANIC CHEMICALS			
ACD	* ACIDS			
BAS	* BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	methyl ethyl ketone	78-93-3	1500 55 gal. drums	unknown	
	toluene	108-88-3			
	methylene chloride	75-09-2			
	chloroform	67-66-3			
	tetrahydrofuran	109-99-9			
	sulfuric acid	7664-93-9			
	zinc cyanide	557-21-1			
	potassium cyanide	151-50-8			
	ethylene diamine	107-15-3			
	iron	unknown			
	n-butylamine	unknown			
	diethylene glycol dinitrate	unknown	pumped to pit & buried	unknown	

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (CPI, EPCRA, RCRA, SARA, etc., and other sources, reports, etc.)

CDH files
Weld County files
interviews with: IBM, Swidstrand, John F. Neuhouser



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

CO D980951735

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION

02 ☐ OBSERVED (DATE _____)

☒ POTENTIAL

☒ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: none

04 NARRATIVE DESCRIPTION

Shallow alluvial ground water contamination exists in the form of halogenated organics in wells 103A; B. Other wells (such as GW1, GWS; 203) show elevated Nitrate/Chloride, Sulfate; Sodium indicating degraded water quality due to the facility.

01 ☒ B. SURFACE WATER CONTAMINATION

02 ☒ OBSERVED (DATE 08/20/90)

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: none

04 NARRATIVE DESCRIPTION

Potential surface water contamination was observed in the drainage to the south of the site. A small pond had half buried drums on its shore. Vegetation was either stressed or dead. The water was murky with no algae growth.

01 ☐ C. CONTAMINATION OF AIR

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Contamination of air was not reported or observed.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS

02 ☒ OBSERVED (DATE July 26, 1968)

☒ POTENTIAL

☒ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: none

04 NARRATIVE DESCRIPTION

A chemical fire was observed on July 26, 1968 at the Pratt Property. It is unknown how the fire was initiated.

01 ☐ E. DIRECT CONTACT

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: on-site workers

04 NARRATIVE DESCRIPTION

Direct contact has not been reported or observed.

01 ☒ F. CONTAMINATION OF SOIL

02 ☐ OBSERVED (DATE _____)

☒ POTENTIAL

☐ ALLEGED

03 AREA POTENTIALLY AFFECTED: 325 ac.
(ACTUAL)

04 NARRATIVE DESCRIPTION

Contamination of soil is a potential due to leaking chemical drums and chemical waste pits.

01 ☐ G. DRINKING WATER CONTAMINATION

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Drinking water contamination not reported or observed.

01 ☒ H. WORKER EXPOSURE/INJURY

02 ☐ OBSERVED (DATE _____)

☒ POTENTIAL

☐ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Worker exposure or injury was not reported or observed. However, the potential exists due to excavation activities on-site.

01 ☐ I. POPULATION EXPOSURE/INJURY

02 ☐ OBSERVED (DATE _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

Population exposure or injury was not reported or observed.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

CO 180931735

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Damage to flora has not been reported or observed

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (INCLUDE NUMBER(S) OF RESPONSES)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Damage to fauna has not been reported or observed

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Contamination of the food chain has not been reported or observed.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES
(Leaks/runoff/evaporating liquids/leaking drums)

02 ☐ OBSERVED (DATE: _____)

☒ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

The chemical waste drums are potentially rusted and leaching waste into the shallow aquifer systems.

01 ☒ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Shallow alluvial contamination from wells 103A/B is migrating off-site. Disposal is possibly a contaminated pond exists off-site to the south of the Columbine Site.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

Contamination of sewers, storm drains or WWTP's have not been reported or observed

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: 08/20/90)

☐ POTENTIAL

☐ ALLEGED

Illegal or unauthorized dumping has occurred in the drainage to the south of the Columbine Site.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

Some portions of the landfill are potential saturated (due infiltration of precipitation and surface water or contact with shallow ground water). Therefore significant methane generation is probable.

III. TOTAL POPULATION POTENTIALLY AFFECTED: estimated at 1410 for town of Erie

IV. COMMENTS

none.

V. SOURCES OF INFORMATION (Cite specific references, e.g., 31999 HHS, 31999 HHS, 31999 HHS, 31999 HHS)

CDA files
Weld County Health Department, Planning Department & Commissioners Office
Interviews with Cardlab; Colorado Landfill, Inc.; K. Pratt; J. Neuhouser, IBM; Sundstrand

WRS-28-75

THIS FORM MUST BE
SUBMITTED PRIOR TO
THE EXPIRATION OF THE
PERMIT. TYPE OR
PRINT IN BLACK INK.
COPY OF ACCEPTED
STATEMENT MAILED
ON REQUEST.

COLORADO DIVISION OF WATER RESOURCES

300 Columbine Bldg., 1845 Sherman St. Denver, Colorado 80203

RECEIVED
OCT 9 1980

FOR OFFICE USE ONLY
Div. 1 City 62

☒ STATEMENT OF BENEFICIAL USE OF GROUND WATER
☐ AMENDMENT OF EXISTING RECORD
☒ REGISTRATION

WATER RESOURCES
STATE ENGINEER
CO (D)

PERMIT NUMBER 114405

STATE OF COLORADO

COUNTY OF WELD

LOCATION OF WELL

THE AFFIANT(S) Colorado Landfill, Inc.

County Weld

whose mailing address is 4710 W. 12th Street

NW $\frac{1}{4}$ of the NE $\frac{1}{4}$, Section 29

City Greeley Colorado 80631
(STATE) (ZIP)

Twp. 1 N, Rng. 68 W, 6th P.M.
(N OR S) (E OR W)

being duly sworn upon oath, deposes and says that ~~XXXXX~~ is (was) the owner(s) of the well described hereon; the well is

located as described above, at distances of 80 feet from the north section line and 2,620 feet from the

east section line; water from this well was first applied to a beneficial use for the purpose(s) described herein on the 15th

day of July, 1980; the maximum sustained pumping rate of the well is 15 gallons per minute; the pumping

rate claimed hereby is 15 gallons per minute; the total depth of the well is 690 feet; the average annual amount

of water to be diverted is 1 acre-feet; for which claim is hereby made for domestic

purpose(s); the legal description of the land on which the water from this well is used is

35 acres in NW 1/4 NE 1/4, Section 29, Township 1 N, Range 68 W, of 6th P.M. which totals

1 acres and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved therefor; this statement of beneficial use of ground water is filed in compliance with law; he ~~XXXX~~ has ~~known~~ read the statements made hereon; knows the content thereof; and that the same are true of his ~~XXXX~~ knowledge.

Signature(s) C. Lynn Keirnes
C. Lynn Keirnes, President of Colorado Landfill, Inc.
Subscribed and sworn to before me on this 2nd day of October, 1980

My Commission expires: May 15, 1983

Diane K. Roth
NOTARY PUBLIC

9022

FOR OFFICE USE ONLY

Court Case No. _____

Sec. _____ $\frac{1}{4}$, _____ $\frac{1}{2}$, _____ $\frac{3}{4}$

Well Use 1

Dist. D6 Basin _____ Man. Dis. _____

Prior. _____ Mo. _____ Day _____ Yr. _____

County 62 Dist. 6

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO
PURSUANT TO THE FOLLOWING CONDITIONS:

ACCEPTED

Bruce E. DeBene
STATE ENGINEER

OCT 9 1980
DATE

BY

Well drilled by Waneka & Son

Lic. No. 2

Pump installed by McGee Pump Service

Lic. No. 821

Meter Serial No. 11402

☒ Flow Meter

☐ Electric Meter

☐ Fuel Meter

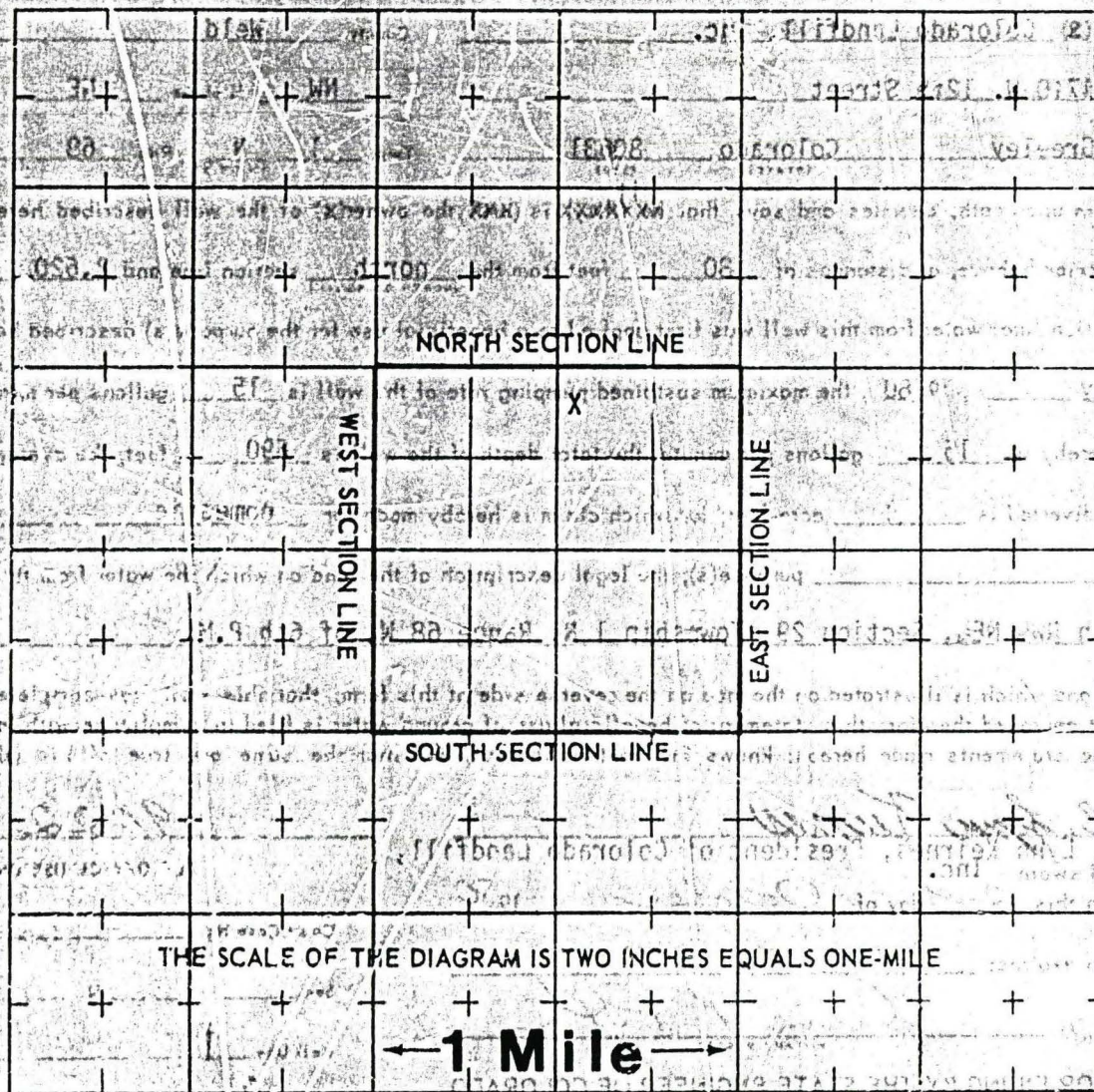
Owner of land on which
water is being used

Colorado Landfill, Inc.

Date installed: July 15, 1980

THE LOCATION OF THE WELL MUST BE SHOWN AND THE AREA ON WHICH THE WATER IS USED
MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.

This diagram represents nine (9) sections. Use the CENTER SQUARE
(one-section) to indicate the location of the well, if possible.



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep.
1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.
10⁶ gpm pumped continuously for one year produces 160 acre-feet.

1980 9 170

COLORADO DIVISION OF WATER RESOURCES

1313 Sherman Street - Room 818
Denver, Colorado 80203THIS FORM MUST BE SUBMITTED
WITHIN 60 DAYS OF COMPLETION
OF THE WORK DESCRIBED HERE-
ON. TYPE OR PRINT IN BLACK
INK.

WELL COMPLETION AND PUMP INSTALLATION REPORT

PERMIT NUMBER 114405

RECEIVED

SEP 10 1980

WATER RESOURCES
STATE ENGINEERWELL OWNER COLO. LANDFILL INC.NW 1/4 of the NE 1/4 of Sec.ADDRESS 6037 77th AVE. GREELEY, CO. 2 T. 1 N. R. 68 W.

DATE COMPLETED

7/10 1980

HOLE DIAMETER

8 3/4 in. from 0 to 20 ft.6 in. from 20 to 430 ft.4 in. from 430 to 690 ft.DRILLING METHOD ROTARY MUDCASING RECORD: Plain CasingSize 5" & kind STEEL from +2 to 20 ft.Size 4" & kind STEEL from 20 to 430 ft.

Size _____ & kind _____ from _____ to _____ ft.

Perforated Casing

Size 4" & kind OPEN from 430 to 690 ft.

Size _____ & kind _____ from _____ to _____ ft.

Size _____ & kind _____ from _____ to _____ ft.

GROUTING RECORD

Material CEMENTIntervals 380' to 430' 5' to 20'Placement Method PUMPED

GRAVEL PACK: Size _____

Interval _____

TEST DATA

Date Tested 7/10 1980Static Water Level Prior to Test 200 ft.Type of Test Pump BAILORLength of Test 4 HRSSustained Yield (Metered) 15 GAL MINFinal Pumping Water Level 400

WELL LOG

From	To	Type and Color of Material	Water Loc.
0	2	CLAY	
2	55	SLATE	
55	58	COAL	
58	63	SLATE	
63	65	Rock	
65	82	SLATE	
82	84	Rock	
84	174	SLATE	
174	176	COAL	
176	245	SLATE	
245	253	WORKED OUT COAL	
253	400	NO RETURN	
400	690	SAND STONE	
TOTAL DEPTH		<u>690</u>	

Use additional pages necessary to complete log.

PUMP INSTALLATION REPORT

Pump Make _____

Type _____

Powered by _____ HP

Pump Serial No. _____

Motor Serial No. _____

Date Installed _____

Pump Intake Depth _____

Remarks _____

WELL TEST DATA WITH PERMANENT PUMP

Date Tested _____

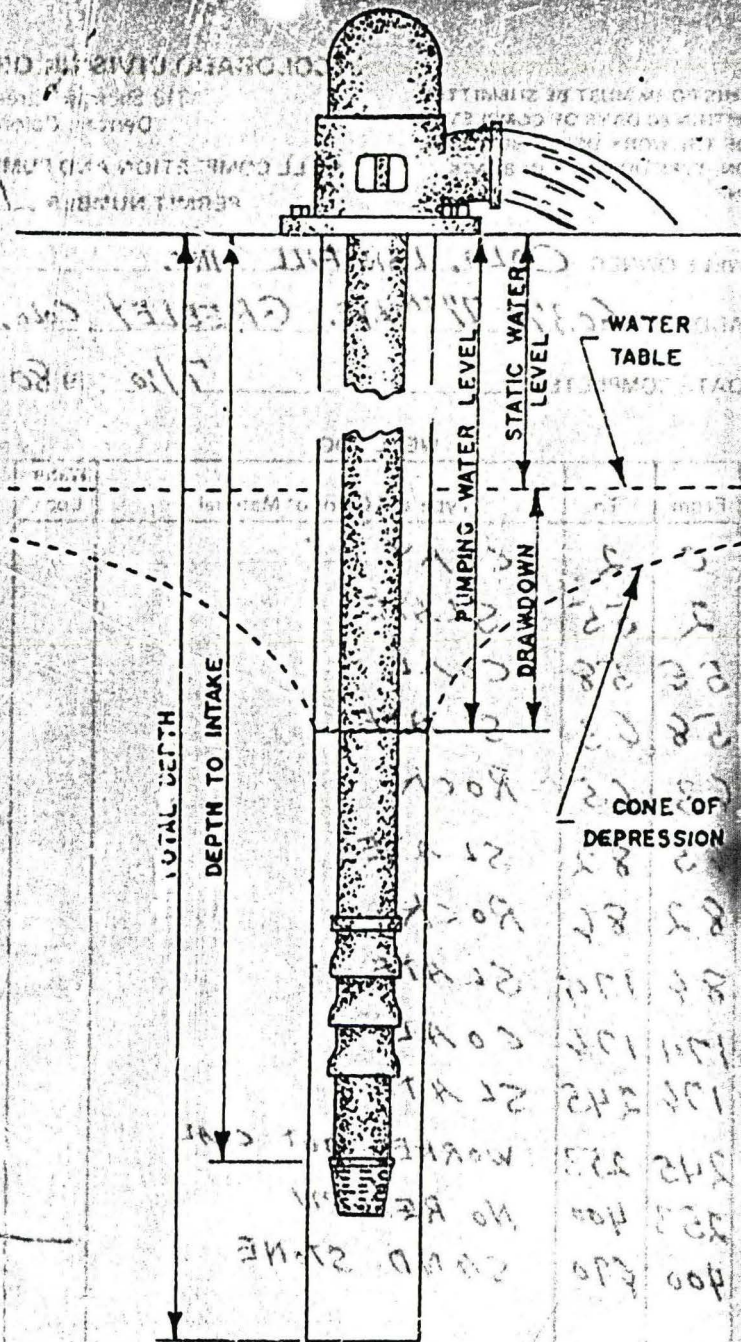
Static Water Level Prior to Test _____

Length of Test _____ Hours

Sustained yield (Metered) _____ GPM

Pumping Water Level _____

Remarks _____



CONTRACTORS STATEMENT

The undersigned, being duly sworn upon oath, deposes and says that he is the contractor of the well or pump installation described hereon; that he has read the statement made hereon; knows the content thereof, and that the same is true of his own knowledge.

Signature Don Wamba

License No. 2

State of Colorado, County of Boulder

SS

Subscribed and sworn to before me this 8th day of September, 19 80.

My Commission expires My Commission Expires Feb. 9, 1982

Notary Public William L. Smith

FORM TO BE MADE OUT IN QUADRUPPLICATE: WHITE FORM must be an 'original' copy on both sides and signed. WHITE AND GREEN copies must be filed with the State Engineer. PINK COPY is for the Owner and YELLOW COPY is for the Driller.

COLORADO DIVISION OF WATER RESOURCES
818 Centennial Bldg., 1313 Sherman St., Denver, Colorado 80203

PERMIT APPLICATION FORM

RECEIVED
MAY -- 8 1980
WATER RESOURCES
STATE ENGINEER
COLORADO

Application must be complete where applicable. Type or print in **BLACK INK**. No overstrikes or erasures unless initialed.

(X) A PERMIT TO USE GROUND WATER
(X) A PERMIT TO CONSTRUCT A WELL
FOR: (X) A PERMIT TO INSTALL A PUMP
() REPLACEMENT FOR NO.
() OTHER

WATER COURT CASE NO.

(1) **APPLICANT** - mailing address

NAME Colorado Landfill, Inc.

STREET c/o Zorich-Erker Engineering, Inc.

1221 So. Clarkson, Suite 222

CITY Denver, Colorado 80210
(State) (Zip)

TELEPHONE NO. 777-0554

(2) **LOCATION OF PROPOSED WELL**

County Weld

NW 1/4 of the NE 1/4, Sect. on 29

Twp. 1 N, Rng. 68 W, 6th P.M.
(N.S) (E.W)

(3) **WATER USE AND WELL DATA**

Proposed maximum pumping rate (gpm) 15

Average annual amount of ground water to be appropriated (acre-feet): 1

Number of acres to be irrigated: 1

Proposed total depth (feet): 650

Aquifer ground water is to be obtained from:

Laramie-Fox Hills Aquifer

Owner's well designation

GROUND WATER TO BE USED FOR:

- () HOUSEHOLD USE ONLY - no irrigation (0)
(X) DOMESTIC (1) () INDUSTRIAL (5)
() LIVESTOCK (2) () IRRIGATION (6)
() COMMERCIAL (4) () MUNICIPAL (8)
() OTHER (9)

DETAIL THE USE ON BACK IN (11)

(4) **DRILLER**

Name Licensed

Street

City

(State)

(Zip)

Telephone No. Lic. No.

FOR OFFICE USE ONLY: DO NOT WRITE IN THIS COLUMN

Receipt No. 4051 25

Basin

Dist.

CONDITIONS OF APPROVAL

This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of the permit does not assure the applicant that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

APPROVED PURSUANT TO CRS 1973, 37-92-602
(3)(b)(II) AS THE ONLY WELL ON A TRACT OF 35 ACRES OR MORE DESIGNATED AS 35 ACRES IN NW 1/4, NE 1/4, SEC 29; T1N; R68W; 6 PM.

APPLICATION APPROVED

PERMIT NUMBER 114405

DATE ISSUED JUN 02 1980

EXPIRATION DATE JUN 02 1982

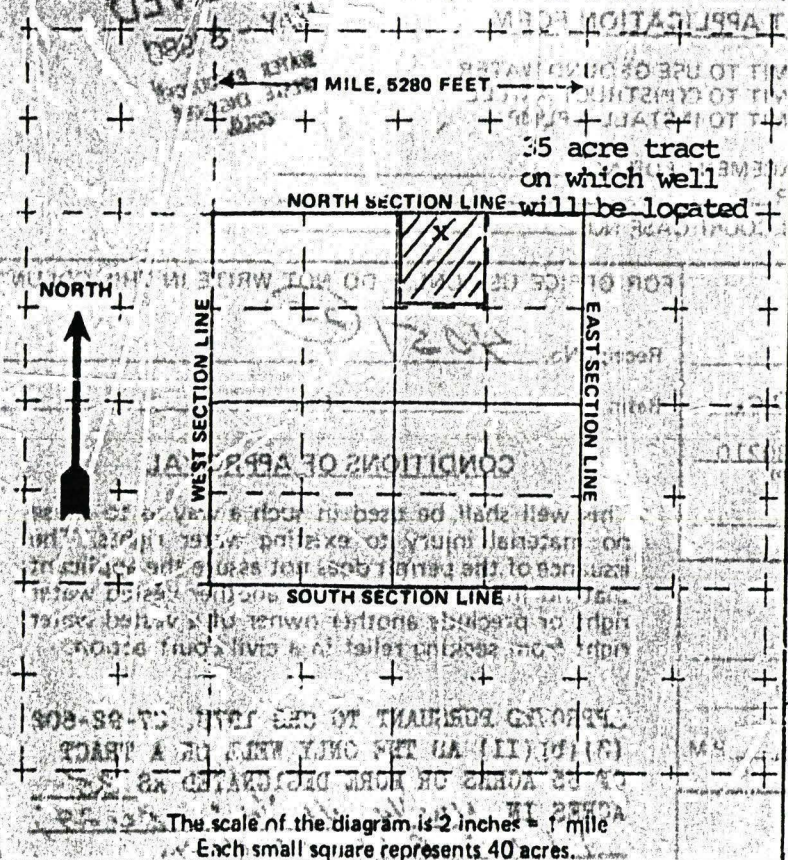
DEPUTY (STATE ENGINEER)

BY

GLD: 1-06

COUNTY 62

(5) THE LOCATION OF THE PROPOSED WELL and the area on which the water will be used must be indicated on the diagram below. Use the CENTER SECTION (1 section, 360 acres) for the well location.



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep
 1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm)
 A family of 5 will require approximately 1 acre-foot of water per year.
 1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
 1,000 gpm pumped continuously for one day produces 4.42 acre-feet.

(6) THE WELL MUST BE LOCATED BELOW by distances from section lines.

80 ft. from north sec. line
 (north or south)
 2,020 ft. from east sec. line
 (east or west)
 LOT BLOCK FILING
 SUBDIVISION

(7) TRACT ON WHICH WELL WILL BE LOCATED Owner: Colorado Landfill, Inc.

No. of acres 35 Will this be the only well on this tract? Yes

(8) PROPOSED CASING PROGRAM

Plain Casing
 6 in. from 0 ft. to 400 ft.
 Perforated casing
 6 in. from 400 ft. to 650 ft.
 in. from ft. to ft.

(9) FOR REPLACEMENT WELLS give distance and direction from old well and plans for plugging it:

(10) LAND ON WHICH GROUND WATER WILL BE USED:

Owner(s): Colorado Landfill, Inc.

No. of acres: 160

Legal description: See attached

(11) DETAILED DESCRIPTION of the use of ground water: Household use and domestic wells must indicate type of disposal system to be used. Use will be for ordinary household purposes; watering of farm livestock, poultry, and domestic animals; and irrigation of home gardens and lawns. The total area of which will not exceed one acre. Septic and leach field will be used for disposal.

(12) OTHER WATER RIGHTS used on this land, including wells: Give Registration and Water Court Case Numbers:

Type or right	Used for (purpose)	Description of land on which used

(13) THE APPLICANT(S) STATE(S) THAT THE INFORMATION SET FORTH HEREON IS TRUE TO THE BEST OF HIS KNOWLEDGE.

Stephen R. Palmer
 SIGNATURE OF APPLICANT(S)

Engineer for Applicant

TYPE ON
PRINT IN BLACK INK
COPY OF ACCEPTED
STATEMENT MAILED
ON REQUEST

APR 1978
RECEIVED
STATE ENGINEER
OHIO

COUNTY OF

AMENDMENT OF EXISTING RECORD

LATE REGISTRATION

PERMIT NUMBER 23267

LOCATION OF WELL

DANIEL R. HORST

whose mailing

Address is 2240 Weld County Road 5

Содержание

WELD

NW

Y. A. I. B.

SW

21

Q. ERIE COLORADO 80516

1

A

68

4

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described hereon, the well is located as described above, at distances of 1610 feet from the S section line and 216 feet from the

W section line, water from this well was first applied to a beneficial use for the purposes described herein on the APRIL 13 day of 1965; the maximum sustained pumping rate of the well is 8 gallons per minute, the pumping rate claimed hereby is 8 gallons per minute, the total depth of the well is 700 feet; the average annual amount of water to be diverted is — acre-feet; for which claim is hereby made for DOMESTIC AND

LIVESTOCK

purpose(s); the legal description of the land on which the water from this well is used is

WEST ONE-HALF (N 1/2) OF THE WEST ONE-HALF (W 1/2) SECTION 21, TOWNSHIP 1 NORTH, RANGE 68 of which
WEST OF THE 6TH P.M.

I, Q acres are irrigated and which is illustrated on the map on the reverse side of this form; that this well was completed in compliance with the permit approved therefor; this statement of beneficial use of ground water is filed in compliance with law; he (they) has (have) read the statements made hereon; knows the content thereof; and that the same are true of his (their) knowledge.

(COMPLETE REVERSE SIDE OF THIS FORM)

Signature(s)

(COMPLETE RI
Daniel F Horst

Subscribed and sworn

to before me on this 16 day of March, 19 78

My Commission Expires Feb. 22, 1981

Robert W. Brown

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO
PURSUANT TO THE FOLLOWING CONDITIONS:

FOR OFFICE USE ONLY

Court Case No

Prio

Me

Day

D.V.

City

Well...

015

Bos

Man Dies

TYPE OF
PRINT IN BLACK INK
COPY OF ACCEPTED
STATEMENT MAILED
ON REQUEST

COLORADO DIVISION OF WATER RESOURCES

818 Centennial Bldg., 1313 Sherman St.

Denver, Colorado 80203

STATE OF COLORADO

COUNTY OF

DENVER



STATEMENT OF BENEFICIAL USE OF GROUND WATER

☒ AMENDMENT OF EXISTING RECORD

☐ LATE REGISTRATION

PERMIT NUMBER 23267

LOCATION OF WELL

THE AFFIANT S

DANIEL R. HORST

WELD

whose mailing
address is

2240 WELD COUNTY ROAD 5

NW

SW

21

CITY

ERIE

COLORADO

80516

1

N

68

W

6

being duly sworn upon oath, deposes and says that he (they) is (are) the owner(s) of the well described herein, the well is located as described above, at distances of 1610 feet from the S section line and 216 feet from the

W section line, water from this well was first applied to a beneficial use for the purposes described herein on the day of APRIL 13, 1965, the maximum sustained pumping rate of the well is 8 gallons per minute, the pumping

rate claimed hereby is 8 gallons per minute, the total depth of the well is 700 feet, the average annual amount of water to be diverted is — acre-feet, for which claim is hereby made for DOMESTIC AND

LIVESTOCK

purpose(s), the legal description of the land on which the water from this well is used is

WEST ONE-HALF (1/2) OF THE WEST ONE-HALF (1/2) SECTION 21 TOWNSHIP 1 NORTH RANGE 68 which is WEST OF THE 6TH P.M.

0 acres are irrigated and which is illustrated on the map on the reverse side of this form, that this well was completed in compliance with the permit approved therefor, this statement of beneficial use of ground water is filed in compliance with law, he (they) has (have) read the statements made hereon, knows the content thereof, and that the same are true and correct to their knowledge.

(COMPLETE REVERSE SIDE OF THIS FORM)

Signature(s)

Daniel R. Horst

Subscribed and sworn

to before me on this 16 day of March

19 78

My Commission expires

My Commission Expires Feb. 22, 1981

Robert W. Brown

ACCEPTED FOR FILING BY THE STATE ENGINEER OF COLORADO
PURSUANT TO THE FOLLOWING CONDITIONS

FOR OFFICE USE ONLY	
Count Case No.	
File No.	
1	62
3	
02	

Well drilled by GEORGE WANKE & SON Lic. No. 2

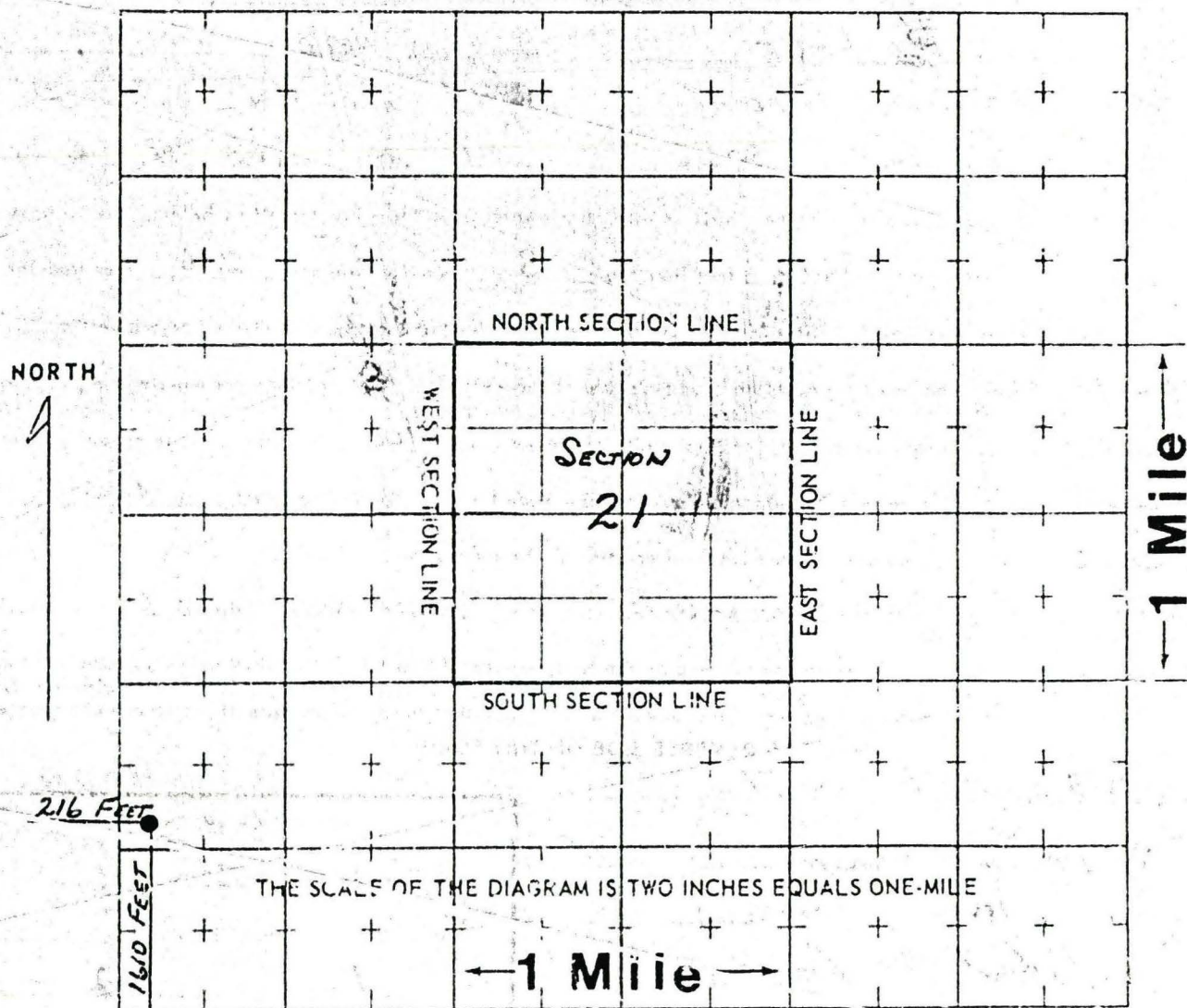
Permanent
Pump installed by _____ Lic. No. _____

Meter Serial No. _____ ☐ Flow Meter Date Installed _____

Owner of land on which
water is being used DANIEL R. HORST

THE LOCATION OF THE WELL MUST BE SHOWN AND FOR LARGE CAPACITY IRRIGATION WELLS THE AREA ON WHICH THE WATER IS USED MUST BE SHADED OR CROSS-HATCHED ON THE DIAGRAM BELOW.

This diagram represents nine (9) sections. Use the CENTER SQUARE (one section) to indicate the location of the well, if possible.



WATER EQUIVALENTS TABLE (Rounded Figures)

An acre-foot covers 1 acre of land 1 foot deep
1 cubic foot per second (cfs) . . . 449 gallons per minute (gpm).
1 acre-foot . . . 43,560 cubic feet . . . 325,900 gallons.
1,000 gpm pumped continuously for one day produces 4.42 acre-feet.
100 gpm pumped continuously for one year produces 160 acre-feet.

(WHITE AND PINK COPY TO BE FILED WITH THE STATE ENGINEER
PINK COPY WILL BE RETURNED TO OWNER)

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF THE STATE ENGINEER
GROUND WATER SECTION

RECEIVED

APR 20 1965
 DIVISION OF WATER RESOURCES
 COLORADO
 STATE ENGINEER

Index No. 2077
 IDWD 1-2
 Use 1
 Registered 4-10-65

LOG AND HISTORY OF WELL

(For State Engineer's Use)

PERMIT NO. 23267

WELL LOCATION

Driller: Pon Wanika Lic. No. #2Owner: Potomac & BrownWeld

County

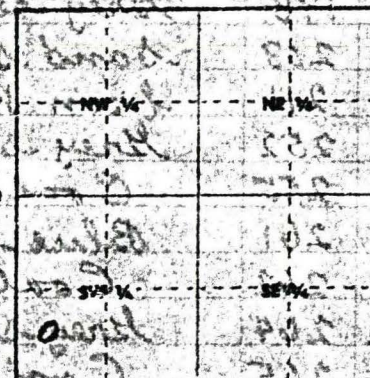
Street: 120 E. 70th Ave City: Denver, ColoSW 1/4 of SW 1/4 of Sec. 21Tenant: -Twp. 17 N Rge. 68 W S. 4 PMUse of Water: DomesticOn or By: SW 1/4 SW 1/4 S. 21 T. 1 N. R. 68 W.

(description of site or land)

Date Started: April 9, 1965Date Completed: April 13, 1965Yield: 8 GPM or at 600 ft CFS**WELL DESCRIPTION:**Depth to Water 300 ft. Total Depth 700 ft.

(measured from ground surface)

Hole Diameter { from 0 ft. to 490 ft. 5 5/8 in.
 from 490 ft. to 640 ft. 4 1/2 in.
 from 640 ft. to 700 ft. 4 in.

**TEST DATA:**How Tested: Drilled Pump or DrilledDate Tested: April 13, 1965 Length: 8 hrs.Rate: 8 GPM Drawn Down: 300 ft.

ABOVE DIAGRAM REPRESENTS ONE FULL SECTION. LOCATE WELL ACCURATELY IN SMALL SQUARE REPRESENTING 40 ACRES.

PUMP DATA:Pump Type: Subm Outlet Size: 1 1/4 in.Driven by: Electric HP: 3**CASING RECORD:**

Plain Casing

or

Size 4 1/2 Kind Steel from 0 ft. to 490 ft.

Size _____ Kind _____ from _____ ft. to _____ ft. Subdivision _____

Size _____ Kind _____ from _____ ft. to _____ ft. (Include filing or number)

Perforated Casing

Size 4 1/2 Kind OPEN from 490 ft. to 640 ft.Size 4 Kind OPEN from 640 ft. to 700 ft.

Size _____ Kind _____ from _____ ft. to _____ ft.

TO BE MADE OUT IN QUAL DUPLICATE:

Original Blue and Duplicate Green Copy must be filed with the State Engineer within 30 days after well is completed. White copy is for the Owner and Yellow copy for the Driller. **SIGN BLUE COPY**

FOR WELL LOG USE REVERSE SIDE

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF GEOL. & MIN. ENG.
GROUND WATER SECTION

Ground Elevation _____ (if known) How Drilled Rotary

FROM FEET	TO FEET	TYPE OF MATERIAL	REMARKS (such as Cementing, Packing, Shut off, etc.)	Indicate Water Bearing Formation	Indicate Perforated Casing Location
0	11	Clay	5 inch seal at		
11	29	Soap stone	490 ft		
29	30	Iron Rock			
30	81	Grey slate			
81	82	Coal			
82	198	Grey slate			
198	208	Sand stone			
208	211	Iron Rock			
211	252	Grey slate			
252	255	Coal			
255	261	Blue slate			
261	262	Coal			
262	264	Grey slate			
264	265	Coal			
265	367	Grey slate			
367	374	Coal			
374	428	Grey slate			
428	429	Coal			
429	480	Grey slate			
480	572	Sand stone			
572	573	Trime stone			
573	700	Sand stone			

Sand stone
Open from 490 ft to 700 ft

WELL DRILLER'S STATEMENT

This well was drilled under my supervision and the above information is true and correct to the best of my knowledge and belief.

TO BE MADE BY THE DRILLER
Original Blue and Yellow Copy
must be filed with the State Engineer within
30 days after well is completed. White
copy is for the Owner and Yellow copy for
the Driller.
SIGN BLUE COPY

Signed George W. Wanka son
By Don Wanka

Dated April 13, 1965

FOR WELL LOG USE REVERSE SIDE

Form C Rev.
9-62/10M

STATE OF COLORADO

APPLICATION FOR:



APR 8 1965
WATER SECT.

Applicant Dorothy L. Broncacia

P. O. Address 120 E. 70th Ave Denver Colo

Quantity applied for 25 gpm or
82 gal ~~AF~~ Storage

Used for Domestic Purposes

on/at SW 1/4 SW 1/4 S. 21. T. 1. N. R. 68 W. 6. P. 1A
(legal description of land site)

3
Total acreage irrigated and other rts.

ESTIMATED DATA OF WELL

Hole size: 8 in. to 200 ft.

5 3/4 in. to 500 ft.

Casing Plain 6.0 in. from 0 to 200 ft.

in. from to ft.

Open or Perf 5 3/4 in. from 200 to 500 ft.

in. from to ft.

PUMP _____ Outlet

DATA: Type Lubric HP 2 Size 1 1/4

Use initiation date April 6 19 65.
(Use Supplemental pages for additional data)

Driller to furnish Log and History (Form E)
within 30 days after completion of well.

LOCATION OF WELL COLORADO

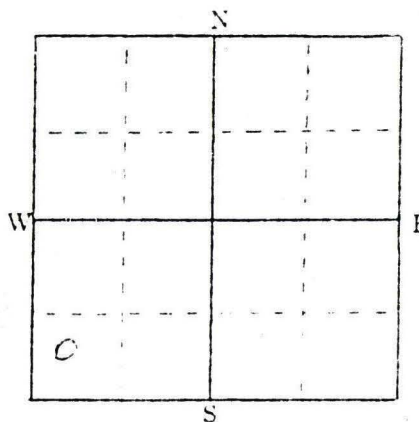
County Weld STATE ENGINEER

SW 1/4 of SW 1/4 of Sect. 21, Twp. 1N,

Rge. 68W, 6 P. M. OR

Street Address or Lot & Block No.

Town or Subdivision



Locate
well in
40 acre
(small)
square
as near
as possible.
Large square
is one section.

\$25.00 fee required for uses other
than Domestic or Livestock.

Applicant Dorothy L. Broncacia

Agent or

Driller George Winkler Son No. 2

Address Box 14 Lafayette Colo 80026

THIS APPLICATION APPROVED

PERMIT NO. 23267

ISSUED:

DATE APR 8 1965 19

NOTE — SATISFACTORY COMPLETION REQUIRED FOR APPROVAL OF APPLICATION

COLORADO DEPARTMENT OF HEALTH
HAZARDOUS MATERIALS AND SOLID WASTE DIVISION
SITE SAFETY PLAN

Site: Columbine Landfill Date: November/December 1990

Location: 1 1/2 mile SE of Erie at WCR #5 and #6; Weld County

Plan Prepared By: Austin Buckingham Approved By: _____

Investigation Objectives: install two ground water background wells,
sample ground water, soil and surface water

Overall Site Hazard: High _____ Medium _____ Low X

Onsite Organization:

Project Team Leader: Austin Buckingham

Site Safety Security Officer: Steve Gunderson

Public Information: Austin Buckingham

Record Keeper: Austin Buckingham

Field Team Members: Austin Buckingham
Glenn Mallory
Steve Gunderson

Federal Agency Contacts:

EPA: Pat Smith Phone: 303-293-1533

NIOSH: _____ Phone: 513-533-8287

OSHA: _____ Phone: 303-844-5285

Other: Emergency Response 303-370-9395
or 303-331-4830

Local Agency Contacts: _____

Weld County Health Department 303-353-0635

Weld County Commissioners 303-356-4000

Town of Erie 303-828-3843

Laidlaw Waste Systems 303-673-9431

or 303-440-9601

Contractors (s) _____

ONSITE CONTROL

All personnel arriving or departing the site should log in and out with the Recordkeeper. All activities on site must be cleared through the Project Team Leader. ALLOW FOR CHANGES IN ONSITE CONDITIONS.

Austin Buckingham & Steve Gunderson has been designated to coordinate access control and security on site. A safe perimeter has been established at The Laidlaw Landfill which has a fenced perimeter

No unauthorized person should be within this area.

The onsite Command Post and staging area have been established at eastern end on north draw

The prevailing wind conditions are variable. This location is upwind from the Exclusion Zone.

Control boundaries have been established, and the Exclusion Zone (the contaminated area), hotline, Contamination Reduction Zone, and Support Zone (clean area) have been identified and designated as follows: (attach map).

These boundaries are identified by: Stakes with flags at the drill site and landfill perimeter fence

Brief Description of Facility: solid waste landfill

Facility Status: Active X Inactive _____ Unknown _____

Facility's Disposal Methods area fill and cover

Facility History (Complaints: Etc.): 1965-1979: chemical waste disposal and open burning

Site Secured: Yes X No _____

Site Access: By Permission from Laidlaw Enforcement Laidlaw/Project Officer
and Project Officer

HAZARD EVALUATION

The following substance(s) are known or suspected to be on site. The primary hazards of each are identified.

<u>Substances Involved</u>	<u>Concentrations (If Known)</u>	<u>Primary Hazards</u>
volatile organic compound	approx. 3,000 ppb max.	Air/breathing
volatile organic compounds	approx. 3,000 ppb. max	skin contact
_____	_____	_____
_____	_____	_____
_____	_____	_____

The following additional hazards are expected on site: explosive landfill gases

Hazardous substance information form(s) for the involved substance(s) have been completed and are attached. See Appendix.

Available Analytical Data Attached As Appendix: Yes X No _____

PERSONAL PROTECTIVE EQUIPMENT

Level A	<u>Fully-encapsulating suit</u>	Level C	_____
	<u>SCBA</u>		_____
	_____		_____
	_____		_____
	_____		_____
	_____		_____
Level B	<u>SCBA</u>	Level D	<u>tyvex</u>
	_____		<u>work boots</u>
	_____		<u>hard hat</u>
	_____		<u>latex gloves</u>
	_____		<u>work gloves</u>
	_____		<u>safety glasses</u>

Other airpurifying respirator
cartridges: particulates, organic vapors and gas

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>				
Exclusion Zone	_____	A	B	C	<u>D</u>	Other
	_____	A	B	C	D	Other
	_____	A	B	C	D	Other
	_____	A	B	C	D	Other
Contamination Reduction Zone	_____	A	B	C	<u>D</u>	Other
	_____	A	B	C	D	Other
	_____	A	B	C	D	Other
	_____	A	B	C	D	Other

The following protective clothing materials are required for the involved substances:

<u>Substance</u>	<u>Material</u>
<u>volatile organic compounds</u>	<u>tyvek</u>
<u>landfill gases</u>	<u>latex gloves</u>
	<u>steel toe boots</u>
	<u>hard hat</u>
	<u>cartridge respirator</u>

If air-purifying respirators are authorized, particulates/organic vapors is the appropriate canister for use with the involved substances and concentrations. A competent individual has determined that all criteria for using this type of respiratory protection have been met.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER AND THE PROJECT TEAM LEADER.

ONSITE WORK PLANS (As Applicable)

Work party(s) consisting of 3 persons will perform the following tasks:

Project Team Leader	<u>Buckingham</u>	<u>coordinate activities</u>
		<u>field logging</u>
Work Party #1	<u>Buckingham</u>	<u>core & sample collection</u>
	<u>Mallory</u>	<u>field logging</u>
	<u>Gunderson</u>	<u>site safety and site control</u>
Work Party #2	<u>Drillers</u>	<u>well drilling</u>
		<u>decontamination of drilling equipment</u>
Rescue Team	<u>not applicable</u>	
(required for		
entries to IDLH		
environments)		
Decontamination		
Team	<u>Buckingham</u>	<u>decontamination of drilling equipment</u>
	<u>Mallory</u>	<u>decontamination of non-dedicated</u>
	<u>Gunderson</u>	<u>sampling equipment</u>

The work party(s) were briefed on the contents of this plan at pre-site meeting
and on-site

COMMUNICATION PROCEDURES. Applicable Yes _____ No X

Channel _____ has been designated as the radio frequency for personnel in the Exclusion Zone. All other onsite communications will use channel _____.

Personnel in the Exclusion Zone should remain in constant radio communication or within sight of the Project Team Leader. Any failure of radio communication requires an evaluation of whether personnel should leave the Exclusion Zone.

_____ is the emergency signal to indicate that all personnel should leave the Exclusion Zone. In addition, a loud hailer is available if required.

The following standard hand signals will be used in case of failure of radio communications:.

Hand gripping throat -----	Out of air, can't breathe
Grip partner's wrist or -----	Leave area immediately
both hands around waist	
Hands on top of head -----	Need assistance
Thumbs up -----	OK, I am all right, I understand
Thumbs down -----	No, negative

Telephone communication to the Command Post should be established as soon as practicable. The phone number is 303-673-9431.
303-440-9601 at Laidlaw Landfill

DECONTAMINATION PROCEDURES

Personnel and equipment leaving the Exclusion zone shall be thoroughly decontaminated. The standard level D decontamination protocol shall be used with the following decontamination stations: (1) remove work gloves
(2) remove tyvex (3) remove boots (4) remove hard hat (5) remove latex gloves
(6) _____ (7) _____ (8) _____ (9) _____
(10) _____ Other _____

Emergency decontamination will include the following stations: _____
detergent and/or water

The following decontamination equipment is required: brush, large tub, organics
free water, detergent, rinse basin

(Normally detergent and water) will be used as the decontamination solution. Other decontamination solutions (s) _____

Disposal of Materials: all disposables will be handled as solid waste

EMERGENCY ROUTES

Directions to Hospital (include map): Longmont United Hospital

303-651-5111 1950 W. Mountain View Avenue, Longmont

Other: _____

Local Ambulance service: Phone: 303-776-1214

Name: Professional Ambulance

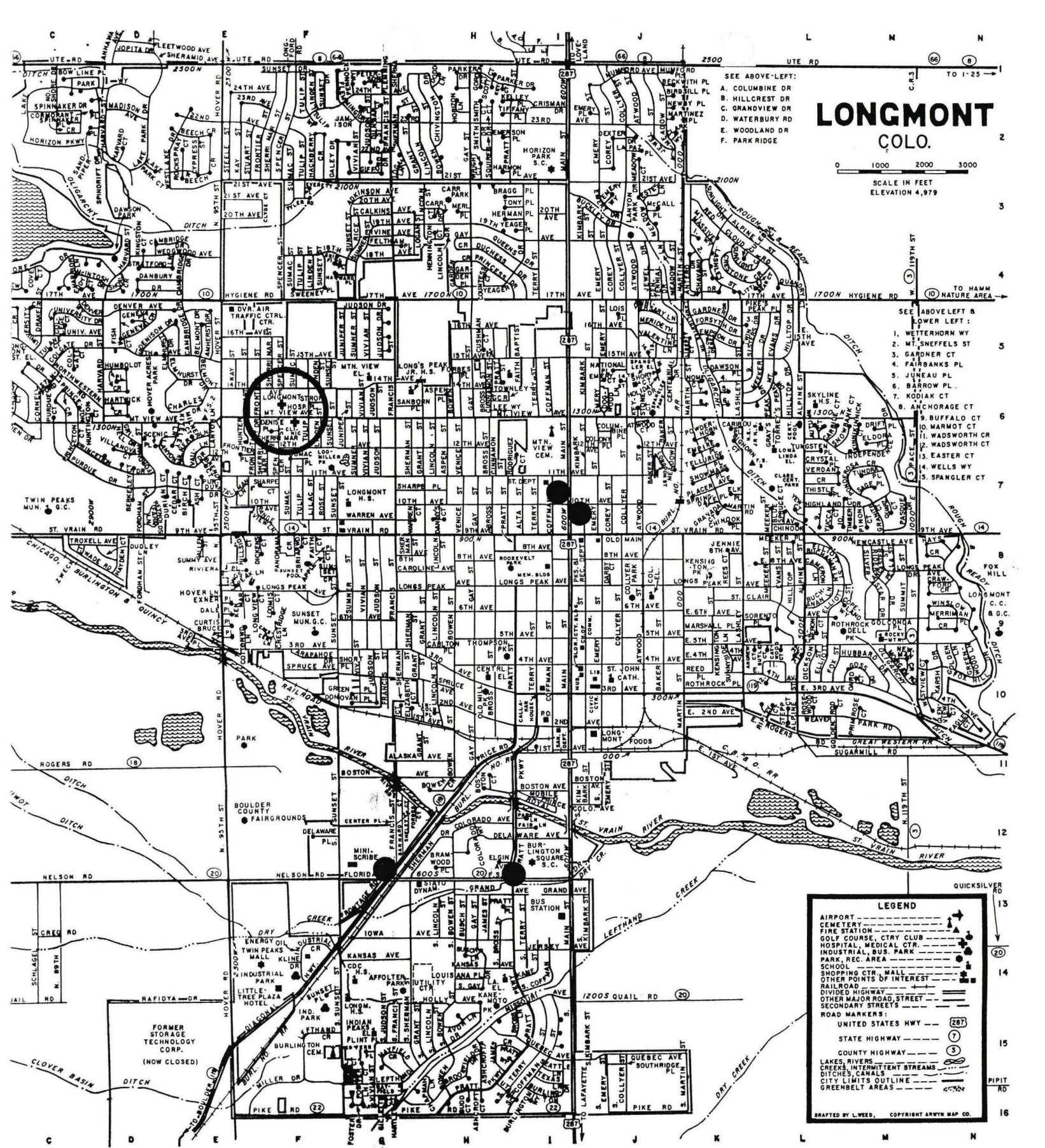
Address: 1903 North Main Street, Longmont

Flight For Life: 1-800-821-1994

Approximate Response Time: 15 minutes

Poison Control Center: Phone: 303-629-1123

EMERGENCY MEDICAL INFORMATION FOR SUBSTANCES PRESENT: TO BE ATTACHED/SITE
SPECIFIC



EMERGENCY CONTACTS

1. Toxicologist

A) Name: CDH/Epidemiology

Phone: 303-331-8330

Address: Ptarmigan Building

Business: 303-890-1673

24 hr page

B) Name: CDH/Emergency Medical Services

Phone: 303-331-8630

Address Ptarmigan Building

Business 303-457-1849

24 hr

2. (a) CHD - Supervisor Pam Harley

Phone: 303-331-4875

(b) CDH/Insurance _____

Phone: _____

MEDICAL HOTLINE

1. Twenty-four hour answering service:

- use emergency response number -
(303) 370-9395

(a) State: "This is an emergency"

(b) Your name, nature of problem, site name

(c) Name of person(s) injured/exposed

(d) I can be reached at _____

(e) Please contact Pam Harley or Emergency Response coordinator (ERC)

(f) HAVE YOUR MESSAGE REPEATED BACK.

2. You will be contacted by ERC

3. If you are not contacted within 10 minutes call 911

_____.

LIST OF EMERGENCY PHONE NUMBERS

AGENCY/FACILITY	Phone #	Contact
Police:	911	
Fire:	911	
Hospital:	303-651-5111	Ambulance 303-776-1214
Airport:	Tri-County Airport	303-666-4350

ENVIRONMENTAL MONITORING

The following environmental monitoring instruments shall be used onsite at the specified intervals (circle as appropriate).

* Combustible Gas Indicator	-	<u>continuous</u> /hourly/daily/other
O ₂ Monitor	-	continuous/hourly/daily/other
Colorimetric Tubes	-	continuous/hourly/daily/other
(type)	-	
* HNU/OVA	-	<u>continuous</u> /hourly/daily/other
Other	-	continuous/hourly/daily/other

Levels of protection to be changed based on the following minimums (upgrade/downgrade).

LEL 0-10%	Level D	periodic monitoring w/CGI
LEL 10-25%	Level C	continuous monitoring
LEL > 25%		cease work, evacuate area

Special considerations as applicable

volatile organics Level D continuous monitoring w/HNu in breathing zone with HNU at background to 5 ppm

LEVEL C continuous monitoring in breathing zone with HNu at more than 5 ppm to 500 ppb above background.

LEVEL B continuous monitoring in breathing zone with HNu at more 500 ppm background.

The following emergency escape routes are designated for use in those situations where egress from the Exclusion Zone cannot occur through the decontamination line: _____

In all situations, when an onsite emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until: .

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed.
4. Site personnel have been briefed on any changes in the Site Safety Plan.

Personal Monitoring

The following personal monitoring will be in effect on site:

Personal exposure sampling: Not expected

Medical monitoring: The expected air temperature will be (40°F). If it is determined that heat or cold stress monitoring is required (mandatory if over 70°F) the following procedures shall be followed:

All site personnel have read the above plan and are familiar with its provisions.

Site Safety Officer	<u>Steve Gunderson</u>	_____
Project Team Leader	<u>Austin Buckingham</u>	_____
Other Site Personnel	<u>Glenn Mallory</u>	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

EQUIPMENT CHECKLIST

PROTECTIVE GEAR

Level A

SCBA _____

SCBA Air Tank _____

Encapsulate Suit _____

Surgical Gloves _____

Neoprene Safety Boots _____

Booties _____

Gloves Type _____

Outer Work Gloves _____

Hard Hat _____

Cascade System _____

Level B

SCBA _____

SCBA Air Tank _____

Chemical Resistant Coveralls _____

Protective Coveralls:
Type _____

Rain Suit _____

Butyl Apron _____

Surgical Gloves _____

Gloves Type _____

Outer Work Gloves _____

Neoprene Safety Boots _____

Booties _____

Hard Hat with Face Shield _____

Cascade System _____

Manifold System _____

<u>Level C</u>		<u>Level D</u>	
Ultra-Twin Respirator	_____	Ultra-Twin Respirator (available)	<u>X</u>
Power Air Purifying Respirator	<u>X</u>	Cartridges (type)	_____
Cartridges (type)	<u>particulates/organic vapors and gases</u>	Robertshaw Escape Mask (available)	<u>X</u>
Chemical Resistant Coveralls	_____	Protective Coverall	<u>X</u>
Protective Coverall	_____	Rain Suit	<u>X</u>
Rain Suit	_____	Neoprene Safety Boots	<u>X</u>
Butyl Apron	_____	Booties	<u>X</u>
Surgical Gloves	_____	Work Gloves	<u>X</u>
Gloves (type)	_____	Hard Hat with Face Shield	<u>X</u>
Outer Work Gloves	_____	Safety Glasses	<u>X</u>
Neoprene Safety Boots	_____	_____	_____
Hard Hat, Face Shield	_____	_____	_____
_____	_____	_____	_____

CAR EQUIPMENT

Tool Equipment _____
Hydraulic Jack _____
Lug Wrench _____
Tow Chain _____
Car Check Out _____
Gas _____
Oil _____
Antifreeze _____
Battery _____
Windshield Wash _____
Tire Pressure _____

MISCELLANEOUS

Pitcher Pump (hand) _____
Surveyor's Tape _____
100' Fiberglass Tape _____
300" Nylon Rope _____
Nylon String _____
Surveying Flags _____
Film _____
Wheel Barrow _____
Bung Wrench _____
Soil Auger _____
Pick _____
Shovel _____
Catalytic Heater _____
Propane Gas _____
Banner Tape _____
Surveying Meter Stick _____
Chaining Pins & Ring _____
Tables _____
Weather Radio _____

FIRST AID KITMISCELLANEOUS

Binoculars _____
Megaphone _____

Sampling Devices

Decon Equipment

Instruments _____

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

4210 East 11th Avenue
Denver, Colorado 80220-3716
Phone (303) 320-8333

Telefax:
(303) 322-9076 (Main Building/Denver)
(303) 320-1529 (Ptarmigan Place/Denver)
(303) 248-7198 (Grand Junction Regional Office)



December 6, 1990

Pat Smith
USEPA, Region VIII
999 18TH Street, Suite 500
Denver, Colorado 80202-2405

Roy Romer
Governor

Thomas M. Vernon, M.D.
Executive Director

RE: Response to EPA (11.21.90) Comments
Columbine Landfill Sample Plan
COD980951735

Dear Ms. Smith:

The Hazardous Materials and Waste Management Division (the Division) has reviewed your 11.21.90 comments to the Columbine Landfill Sample Plan. The following responses are listed in the same order as that of your letter. In addition, a revised text is supplied to replace the original text.

1. Pond #4 appears to be the most likely target for contamination to wetlands. It is stated in the Sample Plan that both Pond #1 (background and upgradient) and Pond #4 (apparently contaminated) will be sampled for surface water and sediment. Please see section 5.5 and page 18 of the revised text.
2. The wells that will be drilled are intended to be background wells, and so the Division questions the necessity of stainless steel casing. This additional cost seems unwarranted. However, the Division will comply with either the pvc or the stainless steel as is deemed appropriate by the USEPA.
- 3a. Wells will not be developed for at least 24 hours following well completion.
- 3b. Water clarity will be utilized as the primary factor in determining if well development and purge volumes are sufficient.
- 3c. The core obtained from CL-SI-MW-2 will not be CLP analyzed. The purpose of the core is to evaluate the lithology at the site.
4. Methylene chloride as a spike has been deleted from the text and replaced with 'A triple volume sample will be collected for the purpose of spiking at the CLP.'

Pat Smith
USEPA
page 2

- 5a. It is anticipated that sample collection will occur in its entirety in one day. However, if it is necessary to sample over two or more days, rinsate blanks, trip blanks, duplicate and triplicate will be collected on each day of sample collection. Metals-free (de-ionized) and organics-free (HPLC grade) rinsate blanks will be obtained on each day of sampling.
- 5b. It is understood that the VOA trip blank will not be run through the sampling equipment and will be prepared off-site.
- 6. Reference to the NPL has been deleted from the text on page 20. A statment indicating that the report will address the data elements in the HRS has been inserted.
- 7a. Level C protective wear has been itemized in the Site Safety Plan.
- 7b. Disposables will be decontaminated prior to disposal as a solid waste.
- 7c. The decon solvent will be methanol.

This concludes the Divison's response to the EPA's 11.21.90 comments. The Divison has tentatively planned to drill and develop these wells on December 17th - 19th. Terracon of Ft. Collins will be the contractor. In the interest of organizing the drilling program in a timely manner, your final confirmation is needed as quickly as possible.

I may be contacted at this office if you have any additional questions.

Sincerely

A handwritten signature in dark ink, appearing to read "Austin N. Buckingham", with a long horizontal flourish extending to the right.

Austin N. Buckingham
Geologist
Hazardous Materials and Waste Management Division

enclosure: Revised Sample Plan
EPA 11.21.90 Letter

cc: G.Mallory, CDH/HMWMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

NOV 21 1990

Ref: 8HWM-SM

Ms. Austin Buckingham
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Dear Austin:

The Columbine Landfill site inspection work plan is pending approval subject to the following comments:

A PA questionnaire or revised PA has not yet been submitted.

- p. 3 Surface water/sediment sampling should include a sample which will assess a release to wetlands.
- p. 15 Wells should be completed with Schedule 5 stainless steel or equivalent, not PVC, due to the presence of chlorinated solvents.
- p. 16 Some believe well grout is not "properly set" for as much as 100 days (Driscoll 1986). Twenty-four hours will be adequate.

Water clarity, not purge volume or chemical parameters, is relevant to well development.

Core sample for CLP analysis? or FIT/ESD FASP analysis?

- p. 18 Methylene chloride should not be specified as the spike. The usual spike in this program is a triple volume sample for the lab to spike.
- p. 19 Rinsate blanks will be needed for each day of ground water sampling. Metals-free water blanks will be needed in addition to organics-free samples.

For clarification, the VOA trip blank will not be run through sampling equipment and should be prepared off-site.

- p. 20 The NPL need not be mentioned. The report will address data elements in the HRS.

Site Safety Plan--mention the potential to upgrade to level C or B, as needed. Level C protective wear not itemized.

Disposables will be deconned prior to disposing as solid waste. (You may have said this in so many words already.)

The decon solvent was not specified.

A letter addendum to the work plan will be sufficient to address these modifications and clarifications. I will supply an approved title page to you and to our Environmental Services Division (ESD) when the letter addendum and the PA questionnaire are in hand. Please call me at (303) 293-1262 if there is any difficulty in submitting the requested documentation.

Sincerely,



Pat G. Smith
Site Assessment Manager

- > schedule 5 stainless steel casing
- > slot size based on sediments encountered.
currently 0.010" slots allowed
0.010" slots bedrock
0.020" slots
- > equipment supply - who?
Hill: explosives

- > double cased well in current location or
move to appropriate location.
- > well development.

need

1. site access for drilling.
2. utilities clearance
3. stake well locations
4. projected drill date.

Terracon

ENVIRONMENTAL, INC.

1609 OakRidge Drive, Suite 101
Ft. Collins, Colorado 80525
(303) 226-5611 Fax (303) 226-2566

James A. Cunningham, P.E.
John F. Hartwell, P.E.
Robert L. Sholar
David M. Rau, P.E.

December 7, 1990

Ms. Austin Buckingham, Geologist
Hazardous Materials & Waste Management Division
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

RE: Monitoring Well Installation Revised Scope of Services
Erie Landfill
Erie, Colorado
Project Number 43905076/COD 980951735

Dear Ms. Buckingham:

The purpose of this letter is to confirm our revised scope of services for the above-referenced project. Our scope of services was developed based on our review of the document entitled "Sampling Plan Columbine Landfill, COD 980951735, Erie, Weld County, Colorado," our meeting on November 30, 1990 and our telephone conversation of today. The requested scope of services generally involves the installation of two (2) groundwater monitoring wells and development of these wells. Our scope of services are described in more detail in the following section of this letter.

SCOPE OF SERVICES

Our scope of services will generally consist of the following:

1. Review background information provided by the Colorado Department of Health (CDH). Meet with CDH personnel to discuss the details of the project and to provide technical assistance relative to the design of the monitoring wells.
2. Install one (1) shallow well, which is referred to as an alluvial well in the sampling plan, and install what is

Offices of Terracon Companies:

Colorado: Denver, Ft. Collins ■ Iowa: Cedar Falls, Cedar Rapids, Davenport, Des Moines, Storm Lake
Illinois: Bloomington, Chicago, Naperville, Rock Island ■ Kansas: Lenexa, (Greater Kansas City), Topeka, Wichita
Minnesota: St. Paul ■ Missouri: Kansas City ■ Nebraska: Omaha ■ Oklahoma: Oklahoma City, Tulsa

Environmental Engineers and Scientists

QUALITY ENGINEERING SINCE 1965

Terracon

Revised Scope of Services
Project No. 43905076/COD 980951735
December 7, 1990
Page 2

- referred to as a shallow bedrock aquifer well. The shallow bedrock aquifer well will be a double cased well. It will be double cased down to the shale layer which we understand exists at a depth of 10-20 feet below the ground surface. The wells will be constructed with 2-inch nominal diameter, Schedule 40, PVC screen and riser materials. We also understand that the CDH wishes to use 0.010-inch slotted screen.
3. We will provide a project geologist/engineer to perform site monitoring, to document field activities and to provide technical assistance during well installation activities.
 4. We will develop the wells by bailing and surging the wells. Temperature, pH, and specific conductance will be measured and recorded during well development activities.
 5. Survey the locations of the newly installed monitoring wells. Elevations will be provided to the nearest 0.01 foot and referenced to mean sea level. The location of the wells will be measured to the nearest 0.1 foot. The surveying will be performed under the direction of a Colorado Registered Land Surveyor.
 6. Prepare a letter report which will be submitted to the CDH. This report will include well construction details, surveying data, well development data and a daily drilling log.

FIELD METHODS

To perform field services, Terracon will provide a truck-mounted rotary type drilling rig with associated drilling equipment and experienced field personnel. One of the drill crew members will be a field engineer. Hollow-stem augers will be used to maintain an open borehole for sampling and monitoring well installation. NX coring will be performed below the shale bedrock for the shallow bedrock well. Air will be used as a drilling fluid when possible; however, water may be required at some depths. The source of water for drilling will be selected by the CDH. The monitoring wells will be installed with lockable above-ground covers.

Prior to arriving at the site, our drill rig and equipment will be cleaned using a high-pressure, hot-water, power washer. Terracon will provide a portable high-pressure, hot-water, power washer for use on site. We will clean the drilling and sampling equipment between each use to limit the potential for cross contamination between boreholes. We understand that electric power and a potable water source suitable for use with this equipment is not available on site. Wash water from the equipment cleaning, excess auger

Terracon

Revised Scope of Services
Project No. 43905076/COD 980951735
December 7, 1990
Page 3

cuttings from the borings, and well development water will be discharged on site.

Recovered soil samples will be provided to CDH personnel on site. We understand that CDH will log the boreholes and that CDH will field-locate the site of the monitoring wells. We will use an 11.8 eVolt PID for on-site monitoring. The wells will be developed by removing a minimum of five (5) standing well volumes and until three (3) consecutive readings of temperature, pH, and specific conductance are within ten percent (10%).

We anticipate that the field borings will be performed under modified safety level D personal protective procedures. Terracon personnel utilized for this project are involved in our in-house medical monitoring program and we will provide site monitoring during our field services by utilizing a photoionization detector. Should this monitoring indicate that an upgrade in the level of personal protective equipment is required, our field services will be terminated until the necessary protection is available for our field personnel.

SCHEDULE

As we discussed in our recent meeting, we anticipate completing the field work on this project on December 17, 18, and 19, 1990. This is a tentative schedule, please confirm the schedule within five (5) days prior to commencement of field activities.

FEES

The estimated fee to complete the scope of work described herein is \$8,300. These estimated fees are based on the site being accessible to conventional truck-mounted drilling equipment. Our fees are based on installing wells to depths of 25 feet and 55 feet below grade for the alluvial and shallow bedrock wells respectively. We also assume that all field services will be provided under safety level D personal protective procedures.

We understand that our services are to be provided under our existing LUST Trust Contract. This is contract number C378503 and will be amended to include the services provided for this project.

Our services will be invoiced based on the actual units of work performed. Many of the services requested for the subject project were not included in our contract with the CDH and will be invoiced at our standard unit rates. That fee schedule assumes that all field services will be performed under modified safety level D personal protective procedures and upgrading the required level of protection would result in higher unit fees. If site conditions

Revised Scope of Services
Project No. 43905076/COD 980951735
December 7, 1990
Page 4

Terracon

are encountered which require major revisions to the scope of work described herein and/or result in significantly higher costs, we will contact you prior to initiating such work.

Two copies of this confirmation letter are enclosed for your convenience. Please signify your agreement with the scope of work described herein by signing one (1) original and returning it to Terracon. We anticipate that we can complete the scope of services described in this letter within ten (10) calendar days. Should you have any questions regarding this letter, or if we may be of further service to you in any other way, please do not hesitate to contact us.

Very truly yours,

TERRACON ENVIRONMENTAL, INC.

Curtiss L. Palin
Curtiss L. Palin, P.E.
Project Engineer

David M. Rau
David M. Rau, P.E.
Senior Project Engineer

CLP/DMR:lsb

NOTICE TO PROCEED

ACCEPTED BY: _____

FOR: _____

DATE: _____

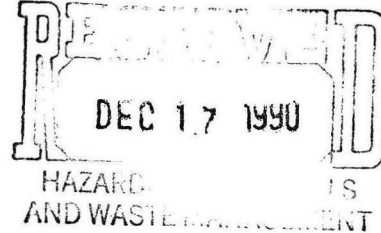


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

DEC 13 1990

Ref: 8HWM-SM



Ms. Austin Buckingham
Colorado Department of Health
4210 East 11th Avenue
Denver, Colorado 80220

Dear Austin:

The Columbine Landfill site inspection work plan is approved following your December 6, 1990, response to comments. A signed approval page is enclosed and a copy has been sent to EPA's Environmental Services Division (ESD).

As we discussed Friday, PVC well construction will be adequate for the background locations in this investigation, especially given that the downgradient wells are already in place and are PVC. The Agency commonly installs stainless steel wells near landfills and organic chemical sites in the site assessment program, partly because wells are not routinely abandoned and ground water remediation is not guaranteed.

Sincerely,

Pat G. Smith
Site Assessment Manager

Enclosure

SAMPLING PLAN
COLUMBINE LANDFILL
COD980951735
ERIE, WELD COUNTY
COLORADO

SUBMITTED TO: PAT SMITH
EPA PROGRAM MANAGER

SUBMITTED BY: AUSTIN BUCKINGHAM
CDH PROJECT OFFICER

REVIEWED BY: 
October 31, 1990
Revised December 7, 1990

Approved
PS Smith
8/11/90
12/11/90

PA/Columbine St

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

4210 East 11th Avenue
 Denver, Colorado 80220
 Phone (303) 320-8333

WELD G

Post-It™ brand fax transmittal memo 7671		# of pages > 1
To: Austin Buckingham	From: T. Linton	
Co: State of Colo	Co: State	
Dept:	Phone # 776-4496	
Fax # 322-9076	Fax # 776-4496	



Roy Romer
 Governor

Thomas M. Vernon, M.D.
 Executive Director

CONSENT FOR ACCESS TO PROPERTY

Name: KENNETH E. PRAIT

Property Address: The E 1/2 of the NE 1/4 and the W 1/2 of the NW 1/4 and the S 1/2
WELD COUNTY, COLORADO Section 29, T1N, R68W

I, _____ am the owner or the authorized representative of the owner of real estate property located at the above address. I hereby consent to the entering and inspection of said property by officers, employees, and authorized representatives of the Colorado Department of Health, Hazardous Materials and Waste Management Division and officers and employees of contractors under their employ. My consent gives the above named parties a right of continued entry to, upon or through said property for the following purposes:

1. bore holes into the subsurface;
2. install groundwater monitoring wells;
3. sample soil surface and/or groundwater on or underling the property;
4. take photographs and make visual observations of property;
5. any other such actions related to the taking of these samples as may be necessary.

I realize that these actions by the Hazardous Materials and Waste Management Division are under taken pursuant to the Colorado Department of Health's participation with the United States Environmental Protection Agency in the Comprehensive Environmental Response, Compensation and Liability Act (Superfund), 42 U.S.C. S. 9601-9675.

12-20-90
 Date

Kenneth E. Prait
 Signature

jw/3095K

ROY ROMER
Governor



JERIS A. DANIELSON
State Engineer

OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES

1313 Sherman Street-Room 818
Denver, Colorado 80203
(303) 866-3581
FAX [303] 866-3589

February 21, 1991



Steven H. Gunderson
Colorado Department of Health
4210 E. 11th Avenue
Denver, CO 80220

RE: Monitoring and Observation Holes

File No. MH- 17239
Owner: CDH Hazardous Materials

Center S 1/2
Township 1N

Section 29
Range 68W

Dear Mr. Gunderson:

Thank you for your letter of February 12, 1991, notifying this office of your intent to construct the subject monitoring and observation holes. The construction of the holes must be completed within three (3) months of the date of this acknowledgement. Testing and/or pumping shall not exceed a total of seven (7) days unless prior written approval is obtained from the State Engineer. The water diverted during testing shall not be used for beneficial purposes. The well owner or his agent shall be responsible for obtaining permits and complying with all rules and regulations pertaining to the discharge of all fluids produced during testing. The holes must be plugged within one (1) year after construction unless a well permit has been obtained from the State Engineer.

A copy of this acknowledgement must accompany the drilling rig. All work must be in compliance with the Water Well and Pump Installation Rules. Construction details, geologic logs, and test data, in the form of well construction and test reports (form GWS-31), must be submitted to this office within sixty (60) days of the completion of the work by the licensed contractor or authorized individual. In addition, the well owner should maintain records of any water quality testing and submit this data to the Division upon plugging of the hole or our request. Please refer to the above file number and owner to identify the documents when submitted. Upon completion of plugging, abandonment reports (form GWS-6) must be submitted affirming the dates the holes were plugged, the intervals and types of materials used, and by whom the holes were plugged.

Acknowledgement of this monitoring and observation hole notice does not indicate that well permits can be approved. If you have any questions, contact this office.

Sincerely,

Fred M. Loo
Water Resources Geologist
Ground Water Section

FML:cq

cc: Division 1 (with enclosure)
SHG.FML/Form # 0838(Q)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405



Ref: 8ES-AS

Mr. Glenn Mallory ✓
Colorado Dept. of Health
4210 East 11th Ave.
Denver, CO 80220

Dear Mr. Mallory:

I confirm the receipt of a (check one or both) RAS ☒
SAS _____ request for (# samples) 14 (matrix) soil + water
(analysis) TM, DM, VOA, BNA, PEST/PC (site name) Columbine Landfill
on (date) 3/6/91. The Document Control Number assigned to
this case is: 90-0017.

DeAnn Mock

Signature

3/6/91

Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

TO: Glen Mallory PHONE: 331-4859
AGENCY/FIRM: Colorado Dept. of Health FAX NO: 322-9076
CITY Denver STATE CO

FROM: Blair Vos PHONE: 294-7537
OFFICE CODE: RSCC-ESAT FAX NO: 293-1424
NUMBER OF PAGES TO FOLLOW: 0

Columbine Landfill:case number 16256organics go to: Wadsworth/Alert Laboratories, Inc.4101 Shuffel Drive N.W.North Canton, OH 44720(216) 497-9396ATTN: Sample CustodianInorganics go to: Datachem, Inc.960 West Levoe DriveSalt Lake City, UT 84123(801) 266-7700ATTN: Lee HarrisLet me know if you have any questions.Blair



COLORADO
DEPARTMENT
OF HEALTH

ROY ROMER
Governor

JOEL KOHN
Interim Executive Director

4210 East 11th Avenue
Denver, Colorado 80220-3716
Phone (303) 320-8333

Telefax Numbers:
Main Building/Denver
(303) 322-9076

Parmigan Place/Denver
(303) 320-1529

First National Bank Building/Denver
(303) 355-6559

Grand Junction Office
(303) 248-7198



March 12, 1991

RoseMary Zahn
3211 Johnson Lane
Erie, Colorado 80516

RE: Consent for Access
Site Investigation Columbine Landfill
COD980951735

Dear Ms. Zahn:

Please find enclosed the Consent For Access To Property form. The Hazardous Materials and Waste Management Division (the Division) requests permission to enter your property for the purpose of collecting ground water samples in connection with the Columbine Landfill Site Investigation. Prior to site entry, the Division requires that the Consent For Access To Property form be signed by the owner or an authorized representative.

You, or your technical representative, are welcome to be present during sampling activities. You, or your technical representative, may also obtain a split of the ground water samples on the day of collection. You will be notified prior to all activities on your property. All correspondences, reports and analytical data will be forwarded to you, or your technical representative, for review.

Please sign both copies of the Consent For Access To Property forms and return them to the Division. I may be contacted at this office if you have any additional questions regarding the site investigation activities.

Sincerely

Austin N. Buckingham
Geologist
Hazardous Materials and Waste Management Division

enclosure: Consent For Access To Property

Terracon

ENVIRONMENTAL, INC.

1609 OakRidge Drive, Suite 101
Ft. Collins, Colorado 80525
(303) 226-5611

James A. Cunningham, P.E.
John E. Hartwell, P.E.
Robert L. Sholar
Lester L. Litton, P.E.
David M. Rev, P.E.

DATE: 3/19/91 NUMBER OF PAGES: 5
(including this page)
FROM: Curt Palin TO: 1-322-9076
(telecopy number called)

MESSAGE TO:

Austin Buckingham
(Name)

Call
(Firm)

(City) (State)

Austin,

*Please call if you
have questions.*

Curt,

If you do not receive all of the pages, please call back as soon as possible.
(303) 226-5611

Offices of Terracon Companies:

Colorado: Ft. Collins ■ Iowa: Cedar Falls, Cedar Rapids, Davenport, Des Moines, Storm Lake ■ Illinois: Bloomington, Naperville, Rock Island
Kansas: Lenexa, (Greater Kansas City), Topeka, Wichita ■ Minnesota: St. Paul ■ Missouri: Kansas City ■ Nebraska: Omaha
Oklahoma: Oklahoma City, Tulsa

Environmental Engineers and Scientists

MONITORING WELL DETAILS

Above Grate Cover

Screen slot size or fabric type 0.010 inch

BORING ELEVATIONS

Elevation _____ ☐ Assumed ☐ Given[illegible]

Terracon

MONITORING WELL DETAILS

Screen slot size or fabric type 0.010 inch

BORING ELEVATIONS

Elevation _____ ☐ Assumed ☐ Given[illegible]

Terracon

GROUNDWATER SAMPLING INFORMATION SHEET

PROJECT NAME ERIE LANDFILL PROJECT NO. 43905076

PROJECT LOCATION _____

SAMPLE POINT CL-SI-MW-213 DATE 3/13/91 TIME 12:30 AM
PM

SAMPLE POINT DESCRIPTION _____

SAMPLING METHOD SS bailer + disp. bailer CASING DIAMETER 2 INCHES

DEPTH TO GROUNDWATER 52.78 FEET WELL DEPTH 72.01 FEET

STABILIZATION DATA

3.15 gal @ 14V

15.75 gal @ 5V

TIME	pH	TEMPERATURE (F)	SPECIFIC CONDUCTANCE (uS/cm)	CUMULATIVE VOLUME REMOVED (GALLONS)
1302	8.46	54.1°F	2340	1.50 gal.
1312	8.35	54.0°F	2390	3.50 gal.
1328	8.45	52.4°F	2320	6.50 gal.
1410	8.48	53.9°F	2130	9.75 gal. - nearly dry
1425	8.69	49.6°F	2540	10.35 gal.

SAMPLE APPEARANCE N/A ODOR N/A

SAMPLING PROBLEMS slow recharge

CLEANING PERFORMED IN FIELD none

COMMENTS development water had lots of olive-brown to olive-gray sediment up to fine sand size particles. After well bailed dry. I was able to remove about 0.6 gallons of water in two hours.

FORM COMPLETED BY TH DATE 3/13/91

Terracon

GROUNDWATER SAMPLING INFORMATION SHEET

PROJECT NAME ERIE LANDFILL PROJECT NO. 43905076

PROJECT LOCATION _____

SAMPLE POINT CE-SI-MW-1 DATE 3/13/91 TIME 12:35 AM

SAMPLE POINT DESCRIPTION _____

SAMPLING METHOD 25 bacher + disp bacher CASING DIAMETER 2 INCHES

DEPTH TO GROUNDWATER 14.49 FEET WELL DEPTH 37.50 FEET

3.77 gal ~ 10W

18.85 gal ~ 5W

STABILIZATION DATA

TIME	pH	TEMPERATURE (F)	SPECIFIC CONDUCTANCE (uS/cm)	CUMULATIVE VOLUME REMOVED (GALLONS)
14:30	8.36	48.1°F	2390	4.0 gal
14:45	8.32	48.8°F	2480	8.0 gal
15:00	8.44	49.2°F	2300	12.0 gal
15:15	8.46	48.1°F	1980	16.0 gal
15:30	8.45	48.3°F	2020	20.0 gal

SAMPLE APPEARANCE N/A ODOR N/A

SAMPLING PROBLEMS none

CLEANING PERFORMED IN FIELD none

COMMENTS This well had very good recharge rate and only a slight amount of lt. brown suspended sediment of silt size or smaller.

FORM COMPLETED BY DJA DATE 3/13/91

Terracon

To: Blair Vor, EPA
FROM: GLENN MALLORY
3/20/91

Project Officer
Austin Buckingham
331.4846

RE: Columbine Landfill shipping,
Case # 16040

Date shipped 3/18/91 via Federal Express

A. INORGANICS: to Associated Laboratories
Orange, Ca

C.O.C # 8-09303

FedX Airbill # 7685207375

7 one-liter ~~poly~~ poly. / metals analysis
groundwater
One Cooler

B. ORGANICS: To: S-Cubed 2 coolers
San Diego

① COC # 8-09376

FedX Airbill # 9037282461

BNA/PEST/PCB: 7 bottles (3 samples)

VOA: 12 bottles (6 samples)

② COC # 8-09304

FedX Airbill # 9037282472

BNA/PEST/PCB: 6 bottles (3 samples)

VOA: 6 bottles (3 samples)

PA/SI

WCD/COL

TerraconENVIRONMENTAL, INC.
1609 OakRidge Drive, Suite 101
Ft. Collins, Colorado 80525
Phone (303) 226-5611**MEMORANDUM**

Date:

3/28/91

To:

Colorado Department of Health
Hazardous Materials + Waste Management
4210 East 11th Ave.
Denver, CO 80220

Attention:

Austin Buckingham

Re:

Erie Landfill Project

Job No:

43905076

Remarks:

The purpose of this memo is to confirm our conversation on March 25 concerning additional well development work to be performed for the Erie Landfill project. Mr. Richard Howell will meet you at the site on April 5, 1991 at 9:00 AM to perform the additional well development.

Also as previously discussed, we are requesting a letter from you confirming that Terracon was directed in the field on February 28, 1991 to redrill the boring for the deep well with continuous flight augers. As requested, the well was completed without a double casing. It is understood that the redrilling was required due to the shearing off of the coring bit in the original well boring.

Yours truly,

TERRACON ENVIRONMENTAL, INC.

By:

A handwritten signature in cursive script that reads "Curt Palin".
Curt Palin

RECORD OF COMMUNICATION

☐ PHONE CALL ☐ DISCUSSION ☒ FIELD TRIP ☐ CONFERENCE
☐ OTHER (SPECIFY)

(Record of item checked above)

TO: Columbine Sl

FROM: A. Buckingham

DATE 4.5.91

TIME 9 AM - 1:30 PM

SUBJECT

work, N 70'S sunny clear sky.

SUMMARY OF COMMUNICATION

arrived 9:10 AM

calibrated H₂O 56 ppm isobutylene

CL MW Sl-1 H₂O 2 ppm OUM 1 ppm WL 64.25' TD 74.35'

CL MW Sl-2 H₂O 2.4 ppm OUM 0 ppm WL 14.51' TD 37.43'

measure WL & TD of interface probe from TOC

CL MW Sl-2 B 1.6' casing vol 3.6 gal CL MW Sl-1 casing vol 1.6 gal

PH = 8.1 8.1 8.3 8.6

temp = 20°/54.6 54.3 55.9 60.2 ?

SC = 2800/3150 2840 2310 2920 ?

galbns = 0.5 2 gal 5 gal 5.25 gal

used a solid steel rod to surge at 2.5 gallons then bailed

WL 79.29' TOC TD 79.29' TOC

11:50 79.8 77.34' WL

CONCLUSIONS, ACTION TAKEN OR REQUIRED

H₂O extremely turbid, dark gray almost viscous well bailed dry at 5.25 gal

11:50 79.8 77.34' WL

INFORMATION COPIES

TO: Richard Howell TERRACON

Robert Hinderman, Stewart A. Buckingham CDH

11:50 PH = 7.8 7.8 7.7 7.5 7.6 7.6

temp = 51.8 50.4 50.9 53.2 52.3 53.6

SC = 2010 2740 2750 2750 2920 2680

gallons = 0.5 gal 5 gal 7.5 gal 10 gal 12.5

H₂O opaque - brown used a solid steel rod to surge

@ 10.6 gallons then bailed H₂O came up a lot more turbid - brown mud.

@ 10.9 16.1 WL 42.15 TD TOC 12:23 PM

PH 7.6 7.6

T 53.6 53.8

SC 2820 2820

gallon 15 gal 17.5

13:05 PM

H₂O continues to be turbid

WL 16.70 TD 42.09

11:00 PM



COLORADO
DEPARTMENT
OF HEALTH

ROY ROMER
Governor

JOEL KOHN
Interim Executive Director

4210 East 11th Avenue
Denver, Colorado 80220-3716
Phone (303) 320-8333

Telefax Numbers:
Main Building/Denver
(303) 322-9076

Ptarmigan Place/Denver
(303) 320-1529

First National Bank Building/Denver
(303) 355-6559

FAX TRANSMISSION SHEET

Used faxed 4/18/91 HW
IMMEDIATE DELIVERY TO: Blair Vas

COMPANY / AGENCY: USEPA PHONE #: 293/424

FROM: Clean Manner

DIVISION OF CDH: E. HMMW PHONE #: 31-4857

SUBJECT: _____

DATE: 4/8/91

SPECIAL INSTRUCTIONS: 2 pages

REGION VIII
SAMPLE CONTROL COORDINATION

Case/SAS No.: _____
Contractor: CDA
CSCC: G. MALLORY

FORM I

ROUTINE ANALYSIS and/or SPECIAL ANALYTICAL SERVICES REQUEST SUMMARY

Filled out by Project Manager or Contractor Sample Control Coordinator.

SITE NAME COLUMBINE LANDFILL SITE SPILL CODE ZZ
ACTIVITY TYPE Site Investigation CITY/STATE ERIE, COLO
EPA RPM PAT SMITH PHONE NO. 293-1238
CONTRACTOR PROJECT MANAGER G. MALLORY (331-4859)

SHIPPING CONTACT/
SAMPLING TEAM LEADER A. BUCKINGHAM PHONE NO. 331-4846

ANTICIPATED SAMPLING DATE RAS: 4/16/91 SAS: _____
ANTICIPATED SHIPPING DATE RAS: 4/17/91 SAS: _____

RAS ANALYSES REQUESTED: (Call into Sample Management Office (SMO) one week prior to sampling).

INORGANICS	ANALYSIS (CHECK)	NO. OF SAMPLES	CONC(L,M,H)
Soil	Metals <input checked="" type="checkbox"/> CN _____ Hg _____	<u>2</u>	<u>L</u>
Water	Metals <input checked="" type="checkbox"/> CN _____ Hg _____	<u>2</u>	<u>L</u>

ORGANICS	ANALYSIS (CHECK)	NO. OF SAMPLES	CONC(L,M,H)
Soil	VOA <input checked="" type="checkbox"/> BNA <input checked="" type="checkbox"/> PEST <input checked="" type="checkbox"/> PCB <input checked="" type="checkbox"/> Fast VOA _____	<u>2</u>	<u>L</u>
Water	VOA <input checked="" type="checkbox"/> BNA <input checked="" type="checkbox"/> PEST <input checked="" type="checkbox"/> PCB <input checked="" type="checkbox"/> Fast VOA _____	<u>2</u>	<u>L</u>

DIOXINS (LIST NUMBER OF SAMPLES)
Soil _____ Water _____ Other _____

SAS ANALYSES REQUESTED:

MATRIX/CONC	ANALYSIS (LIST)	NO. of SAMPLES
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Is this request being submitted for collection of samples under an EPA approved sampling plan? ☒ Yes ☐ No

If NO, Contractor Project Manager **must** sign this request below and provide written explanation.

PROJECT MANAGER (signature) _____

DATE REQUEST CALLED IN TO SMO _____ SMO CONTACT _____

DATE REQUEST SUBMITTED TO REGIONAL SAMPLE CONTROL CENTER 4/8/91

CSCC (signature) Glen T. Malloy 4/8/91

DATE REQUEST RECEIVED BY RSCC _____ RSCC (initials) _____

Rev4/June88



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

Just in your copy.
g

TO: Glenn Mallory PHONE: 331-4859
AGENCY/FIRM: Colorado Dept. of Health FAX NO: 322-9076
CITY Denver STATE CO

FROM: Blair Vos PHONE: 294-7537
OFFICE CODE: RSCC-ESAT FAX NO: 293-1424
NUMBER OF PAGES TO FOLLOW: 0

Columbine Landfill :

case number 16256

organics go to: Wadsworth/Alert Laboratories, Inc.

4101 Shuffel Drive N.W.

North Canton, OH 44720

(216) 497-9396

ATTN: Sample Custodian

Inorganics go to: Datachem, Inc.

960 West Levey Drive

Salt Lake City, UT 84123

(801) 266-7700

ATTN: Lee Harris

Let me know if you have any questions.

Blair

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

4210 East 11th Avenue
Denver, Colorado 80220-3716
Phone (303) 320-8333

Telefax:
(303) 322-9076 (Main Building/Denver)
(303) 320-1529 (Plattigman Place/Denver)
(303) 248-7198 (Grand Junction Regional Office)



Roy Romer
Governor

Thomas M. Vernon, M.D.
Executive Director

FAX TRANSMISSION SHEET

IMMEDIATE DELIVERY TO: Blair Vos
COMPANY/AGENCY: EPA TELEPHONE #: 293-1428
FROM: Austin Buckingham
DIVISION OF CDH: NM & WMT TELEPHONE #: 331-4846
SUBJECT: _____
DATE: April 19, 1991
NO. OF PAGES INCLUDING COVER SHEET: 3

** If there are any problems receiving transmission, please call (303) 331-4781

FAX 293-1424

Case/SAS No. 16256
Contractor CDH
CSCC A. Beckingham

LABORATORY ASSIGNMENT AND SAMPLE SHIPPING INFORMATION

SAMPLE MANAGEMENT OFFICE (SMO) CONTACT

BLAIR VOS

DATE REQUEST SUBMITTED TO SMO

DATE INFO REC'D FROM SMO

4.1.9

SITE NAME

Columbine Goldfish

CITY/STATE

Erle Co

- SAS

a.) WAS WORTH / ALERT

e.) DATAHEM, INC

i.) _____

b.)

f.)

i.)

c.)

g.)

k.)

d.) _____

1.) _____

- [illegible]

INFO CALLED INTO SMO? Yes ☒ No ☐

SMO CONTACT

BLAIR VOS

SAMPLE SHIPPER (signature)

Avon L. Buehling

DATE COMPLETED FORM GIVEN TO CSCC

4-19-91

CSCC (initials)

John F. Malloy

Notes:

one BNA bottle broken prior to shipment (H5918)

DATE COMPLETED FORM RECEIVED BY RSCC

RSCC (initials)

Rev5/OCT88

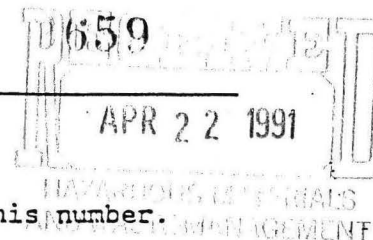
4
IMPORTANT: DETACH AND KEEP THIS SLIP

This is your customer identification number _____

Use this number when inquiring about your sample.

No information will be given over the phone without this number.

COLORADO DEPARTMENT OF HEALTH, WATER CHEMISTRY LAB (phone) 331-4726



CHEMICAL ANALYSIS OF WATER
 COLORADO DEPARTMENT OF HEALTH
 DIVISION OF LABORATORIES
 CHEMISTRY SECTION

Customer ID 2659

PWSID# _____
 (comments field)

COUNTY: _____

Lab.No.: _____

ESTABLISHMENT NAME: _____

DATE SAMPLED: _____

CONTACT PERSON: _____

Date Received: _____

ADDRESS: _____

Date Reported: _____

CITY: _____ ZIP: _____

PHONE NO.: (____) _____

PLANT NAME/# _____ RAW ☐ or FINISHED ☐ WATER

WHERE COLLECTED: _____ COLLECTED BY: _____

MANADATORY Parameters	MCL*	Results	NON-MANDATORY Parameters	MSL**	Results
Arsenic	0.05 mg/l		Total Alkalinity	mg/l	
Barium	1.0 mg/l		Dissolved Solids	500 mg/l	
Cadmium	0.01 mg/l		Specific Conductance	Micromhos	
Chromium	0.05 mg/l		Iron	0.3 mg/l	
Fluoride	2.4 mg/l		Manganese	0.05 mg/l	
Lead	0.05 mg/l		Copper	1.0 mg/l	
Mercury	0.002 mg/l		Zinc	5.0 mg/l	
Nitrate plus Nitrite as Nitrogen	10.0 mg/l		Molybdenum	mg/l	
Selenium	0.01 mg/l		Total Hardness as CaCO ₃	mg/l	
Sodium (recommended)	20.0 mg/l		Calcium as CaCO ₃	mg/l	
Silver	0.05 mg/l		Magnesium	125 mg/l	
			Chloride	250 mg/l	
			Sulfate	250 mg/l	

TKN (Total Kjeldahl Nitrogen)

RADIOACTIVITY (COMPOSITE or GRAB)
 (comments field)

Gross Alpha	15.0 pCi/l	
Gross Beta	50.0 pCi/l	
Radium 226	3.0 pCi/l	
Radium 228+226	5.0 pCi/l	
Uranium	pCi/l	

CORROSIVITY

pH

Water Temperature

Langelier Index

Potassium

Phend. Alkalinity

COLORADO DEPARTMENT OF HEALTH
INORGANIC CHEMISTRY LABORATORY
4210 E 11TH AVE. DENVER, CO 80220
(303)331-4726

DATE: 06/15/91
REPORTED BY: BM

SAMPLE NUMBER: 911713
SAMPLE DESCRIPTION: COLUMBINE LANDFILL

JUN 17 1991

ADDRESS :

COUNTY:

PHONE :

0

COLLECTED BY: A. BUCKING
WHERE: 918 A-B-C, CL-SI-MW-1
DATE SAMPLED: 04/18/91
DATE RECEIVED: 04/19/91
BOTTLES: 1LNEUT NUT 250M
TYPE: 2
COMMENTS: USED THEIR OWN 1L BOTTLES

ANALYSIS RESULTS

ALKALINITY PP	U 10	mg/L
ALKALINITY TOT	380	mg/L
CALCIUM ***	580	mg/L
CHLORIDE	68	mg/L
MAGNESIUM	73	mg/L
N-KJELDAHL	U 10	mg/L
N_NITRATE/NITRITE	5.4	mg/L
POTASSIUM	6.8	mg/L
SODIUM	220	mg/L
SULFATE	650	mg/L

U VALUES = LESS THAN

*** AS CaCO₃

$$580 * 0.4 = Ca^{++}$$

samples were filtered in lab
w/ 0.45 μ filter

COLORADO DEPARTMENT OF HEALTH
INORGANIC CHEMISTRY LABORATORY
4210 E 11TH AVE. DENVER, CO 80220
(303)331-4726

DATE: 06/15/91
REPORTED BY: BM

JUN 17 1991

SAMPLE NUMBER: 911714
SAMPLE DESCRIPTION: COLUMBINE LANDFILL

ADDRESS :

COUNTY:
PHONE :

0

COLLECTED BY: A. BUCKING
WHERE: 920 A-B-C, CL-SI-MW-2B
DATE SAMPLED: 04/18/91
DATE RECEIVED: 04/19/91
BOTTLES: 1LNEUT NUT 250M
TYPE: 2
COMMENTS:

ANALYSIS RESULTS

ALKALINITY PP	U 10	mg/L
ALKALINITY TOT	330	mg/L
CALCIUM ***	380	mg/L
CHLORIDE	85	mg/L
MAGNESIUM	44	mg/L
N-KJELDAHL	29	mg/L
N_NITRATE/NITRITE	U 0.5	mg/L
POTASSIUM	21	mg/L
SODIUM	710	mg/L
SULFATE	1280	mg/L

U VALUES = LESS THAN

*** AS CaCO₃

PA / WCD / COL

SEE INVESTIGATION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

DEC 04 1991

DEC 5 1991

Ref: 8ES-LB

Ms. Austin Buckingham
Colorado Department of Health
Hazardous Materials & Waste Management Division
4210 East 11th Avenue
Denver, Colorado 80220

Subject: Disposal of samples from Columbine,
Erie, delivered to Region VIII, ESD Laboratory.
Results transmitted November 7, 1991.

Dear Ms. Buckingham:

Analytical results for the site listed below were transmitted to your office on the date listed. Unless otherwise advised, these samples will be disposed following defined procedures on or about December 18, 1991. If any samples are desired to be retained, please specify using the EPA sample tag number for each sample requested.

<u>PROJECT/SITE</u>	<u>DATE RESULTS TRANSMITTED, 1991</u>
Columbine, Erie	November 7

Space limitations require that timely disposal of samples be accomplished using defined procedures.

Sincerely,

Gregory J. Saunders

Gregory J. Saunders, Chemist
Laboratory Support Staff

510 W/D/COC
GENERAL PERMIT APPLIC. ON PHASE I
STORMWATER DISCHARGES ASSOCIATED WITH:

LIGHT INDUSTRIAL ACTIVITY (Permit No. COR-010000)
HEAVY INDUSTRIAL ACTIVITY (Permit No. COR-020000)
METAL MINING (Permit No. COR-040000)

See SW/ARK/DEN for application

FOR AGENCY USE ONLY

Certification Number

C	O	R	-	0					
Date Received								Fee Category	
Year Month Day									

Please print or type. Do not attempt to complete this form before reading the instructions.

1. Name and address of the permit applicant: Taxpayer (or Employer) ID# 84-0523684
Name Waste Management of Colorado
Mailing Address 5660 Greenwood Plaza, Suite 400
City, State and Zip Code Englewood, CO 80111
Phone Number (303) 770-3324 Who is applying for the permit? ☒ Owner ☐ Operator
Local Contact (familiar with facility) Russ Vander Kooy
Title Division Vice President Phone Number (303) 770-3324

2. Location of the facility:
Street Address 13320 E. Highway 94
City, State and Zip Code Colorado Springs, CO 80929
County El Paso Name of facility Colorado Springs Landfill & Recycling Center
Township, Range, section, 1/4 section Section 8, T14S, R64W
Latitude and Longitude Lat. 38° 51' 0"; Long. 104° 34' 30"

3. Standard Industrial Classification (SIC) Code(s) for this facility. (Include up to four, in order of importance.)
a) 4953 b) c) d)

4. Permit Category: Under which stormwater general permit does this facility belong? (See Appendix B.)

☒ Heavy Industry ☐ Light Industry ☐ Metal Mining

Metal Mines only: MLRB permit anniversary date . Which category is your facility under?

☐ Active mine, less than 10 acres ☐ Active mine, 10 acres or more ☐ Inactive mine

5. Receiving Stream: The name of the receiving stream(s). (If discharge is to a ditch or storm sewer, also include the name of the ultimate receiving waters). Jimmy Camp Creek

6. Describe the industrial activities which take place on site. Municipal solid waste landfill
managing non-hazardous residential, commercial and industrial solid waste

7. Other Environmental Permit: Does this facility currently have any environmental permits, or is it subject to regulation, under any of the following programs?

	No	Yes	Permit #
a) Colorado Discharge Permit System (CDPS or NPDES)	X		
b) Resource Conservation and Recovery Act (RCRA)	X		
c) Colorado Division of Minerals and Geology (formerly MLRD)	X		
d) Superfund Amendments and Reauthorization Act (SARA), Title III (Emergency Planning and Community Right-to-Know Act), Section 313		X	
▶ If Yes, is the facility subject to reporting requirements for any water priority chemicals under SARA Title III, Section 313?	X		(circle applicable chemicals in Appendix A)

8. Group Applicants: Are you currently participating in a stormwater group application with EPA?

☐ No ☒ Yes Group Application Number 559

9. SPECIAL REQUIREMENT - Stormwater Management Plan

a) Light industrial facilities, and metal mining facilities: for new facilities (beginning operations after October 1, 1992), or existing facilities applying after May 1, 1993, a Stormwater Management Plan (SWMP) shall be prepared prior to applying for coverage under the general permit, and the following certification signed. See Appendix C of the application for a listing of necessary SWMP requirements.

"I certify under penalty of law that a complete Stormwater Management Plan, in compliance with Appendix C of the application, has been prepared for my facility. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the SWMP is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment."

Signature of Permit Applicant

Date Signed

Name (printed)

Title

b) Heavy industrial facilities: for new facilities (beginning operations after October 1, 1992), or existing facilities applying after June 1, 1993, the permittee shall submit a completed SWMP to the Division with the permit application. See Appendix C for a listing of necessary items under this requirement.

SWMP enclosed? ☒ No ☐ Yes

10. Signature of Applicant

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature of Permit Applicant

Date Signed

Tom Buchholz
Name (printed)

9/28/92
Division President
Title



4210 East 11th Avenue
Denver, Colorado 80220-3716
Phone (303) 320-8333

Telefax Numbers:
Main Building/Denver
(303) 322-9076
Ptermigan Place/Denver
(303) 320-1529
First National Bank Building/Denver
(303) 355-6559
Grand Junction Office
(303) 248-7198
Pueblo Office
(719) 543-8441

ROY ROMER
Governor

JOEL KOHN
Interim Executive Director

December 4, 1991

Pat Smith
Site Assessment Manager
Environmental Protection Agency
Region VIII
999 18th Street - Suite 500
Denver, Colorado 80202-2405

RE: Columbine Site Investigation
COD980951735
October 21, 1991

Dear Ms. Smith:

A follow-up investigation at the Columbine site was performed on October 21, 1991. Sampling efforts focused on nearby drinking water wells. The analyses were performed by the Environmental Services Division of EPA. Results were received by this Division on November 12, 1991 and forwarded to you several weeks ago.

Please find enclosed a copy of the chain-of-custody which corresponds the sample number to the resident who uses the well. The following table shows the sample number and the corresponding resident name:

<u>SAMPLE TAG</u>	<u>RESIDENT</u>
HK 813	ZAHN
HK 814	ZAHN (duplicate)
HJ 921	SHAMY (Ranch Eggs)
HJ 922	HORST
HJ 923	LAIDLAW
HK 815	VOA blank

Hopefully, your questions will be answered with this additional information. I may be contacted at this office, if you have any questions.

FILE COPY

Pat Smith
EPA Region VIII
December 4, 1991
page 2/2

Sincerely,

A handwritten signature in dark ink, appearing to read "Austin N. Buckingham". The signature is fluid and cursive, with a long horizontal stroke at the end.

Austin N. Buckingham
Geologist
Solid Waste and Incident Management Section
Hazardous Materials and Waste Management Division

enclosure

cc: Columbine Site Investigation file

MINUTES
EPA/CDH
PA/SI MEETING
March 4, 1992

Done
file
PA/SI
ald/col

EPA will send over a copy of the last validated sampling effort from the Columbine Landfill Site Investigation.

CDH will identify missing data from the Cherry Creek Landfill site investigation and will transmit this information to EPA. EPA will then consult with their data validation person in an effort of determine status of missing data.

The Santa Fe Avenue Bridge Sample Plan is expected to be reviewed by EPA within a week or so of this meeting.

A revised Omaha & Grant PA was submitted.

Discussion was held regarding a method to identify the drinking water population affected by ARGO. It was agreed that those drinking water wells, identified by ASARCO as being within the ARGO plume, would be specifically contacted for the purpose of documenting the existence of the well, depth of the well and the number of users on that well.

It was agreed that a photo log was not required for the Superior Paper PA site, since the area has no remnants of previous operations and since a site visit has already been made.

Projects in progress are the 12th & Ford PA, Old Aurora Landfill PA and the Consolidated Silver SI Sample Plan.

It was agreed that due to a lack of waste quantity, Short Form PA could be performed for the Kensel Greenhouse PA and the Colorado Forest Service PA. Extensive research on targets would not be not required. Only the first two pages of the PA form are necessary.

The Stapleton Airport will perform their own site evaluation. However, it may not include the areas of interest to EPA/CDH for PA purposes. Therefore, CDH will proceed with developing the PA. A Stapleton Airport contact was given as Miles Carter - engineer. The memo documenting reason for site discovery will be prepared by EPA and forwarded to CDH.

During a preliminary evaluation of LC Corp PA site, it was discovered that the site was contained wholly within the Operable Unit 2 of the Sand Creek Industrial Superfund Site. The PA will, therefore, be dropped from the current PA list. EPA will verify deleting this PA from the list, in a memo to CDH.

To fulfill the 91-92 Cooperative agreement, six additional PAs were discussed and assigned. The PAs added are: 1515 Walnut/Boulder, Camp George West, Anderson Dump (west of Johnson Corner), Uhlman Dump, Keensburg Dump and Loveland PCE.

Western Wood was discussed and data gaps were found to exist. An SIP (site investigation prioritization) will be pursued by CDH. EPA will forward a format for developing a typical scope of work for an SIP site.

Valmont Butte (the Hendricks Mining & Milling CERCLA site) is also an SIP site. A Site investigation was performed in 1982 and was designated for No Further Action. The Valmont site will be re-evaluated through the SIP process. This site may be included within the 92-93 CDH Cooperative Agreement or it may be assigned to an EPA contractor.

CDH will continue efforts to develop the PA/SI list for the 92-93 Cooperative Agreement. Potential sites identified to date are:

Preliminary Assessments

Eaton Landfill
Tony Cito Dump
Edmiston Property
smelter sites
town gas sites

Potential Site Investigations

Washington & Forest (carbon tetrachloride plume)
Limon Elevator (surface water focus)
Wolf Tongue (mill site)
Conservation Services, Inc. (inclusive of Tri-County
Landfill)

Potential Site Investigation Prioritization

Valmont/Boulder
Ft. Lupton

Various questions were resolved regarding the new PA Score reporting format. For instance, the existing CDH health and safety plan SOP fulfills the requirement of a health and safety plan for the PA. It does not need to be included with each PA submitted. During site visits to PA sites, Record of Communication and field records should be maintained in the PA file. However, the results of the PA site visit may be summarized in the PA report narrative. The appearance of the PA form printout, which CDH has been able to obtain on our computer/printer system, is suitable to EPA. CDH continues to resolve print-out issues for the PA-Score and Pre-Score format.

The CSMRI SI has been assigned to an EPA contractor.

CDH is at work developing an in-house checklist for a pre-CERCLIS discovery format, with the intent of identifying sites that could go forward for site discovery.

The following additional issues (which were not defined on the planned agenda) were discussed:

1. Both EPA and CDH would work toward documenting information that leads to site discovery. This effort would begin the paper trail of information leading up to the site discovery and subsequent PA.
2. The Environmental Services Division (ESD) is available to CDH for SI field screening tasks such as soil gas surveys and x-ray fluorescence. ESD should be included in the early sample planning stages to coordinate needs with the ESD laboratory and CDH.
3. CDH can not perform PAs or SIs on federal facilities. However, they can perform HRS score packages on federal facilities.
4. CDH needs to do a better job of notifying other Sections within the Division. CDH will now cc other Sections and units.

ENCLOSURE: REVISED PA LIST
March 4, 1992 agenda

CC: DAVE SHELTON, CDH
HOWARD ROITMAN, CDH
DAN SHEPPERS, CDH
PAM HARLEY, CDH
GLENN MALLORY, CDH
FRED DOWSETT, CDH
PAT SMITH, EPA
PAUL ARELL, EPA
CHRYIS JOHANSEN, CDH
AUSTIN BUCKINGHAM, CDH

PROPOSED PA/SI WORKPLAN 3/4/92

PA'S

1. Green Mountain Landfill
2. Colorado & Eastern Railroad
3. Argo Smelter
4. Grant Smelter
5. Rosita Drums
6. Wolf Tongue Mill
7. Westminco
8. Superior Paper Products
9. Kensel Greenhouse
10. Colorado Forest Service
11. Stapleton Airport Fire Training Area
12. Old Aurora Landfill
13. Anderson Dump (west of Johnsons Corner)
14. Uhlman Dump
15. Camp George West
16. 12th & Ford/Golden
17. Switzer Lake Rec Area
18. 1515 Walnut
19. Loveland PCE
20. Keensburg Dump

SI'S

1. Cherry Creek Shopping Center
2. Consolidated Silver Recovery
3. Santa Fe Bridge

AGENDA

EPA/CDH
PA/SI MEETING
March 4, 1992

I. Status on previously submitted reports

Columbine Landfill-need results from the last sample event
Cherry Creek Landfill

II. Current Projects

new submittals

Grant

Santa Fe Avenue Bridge Sample Plan
(others?)

discussion of projects in process

ARGO (population)
(others?)

reports in process

Superior Paper PA (no Photo Log)
12th & Ford PA
Old Aurora Landfill PA
Consolidated Silver Sample Plan

status reports on

Kensel Greenhouse PA
Colorado Forest Service PA (2 HC after Drilling,
none for 1 1/2 years)
Stapleton FTA PA (Pats response on previous PA)
LC Corp PA (OU2/Sand Creek Superfund Site)

assignment of additional PAs

1515 Walnut/Boulder
Camp George West (same discovery reason as CFS PA)

PA site discovery (from pilot site discovery list)

Johnson Corners (wetlands/pesticides)
Ulhman (pesticides)
Keenesburg (industrial drums disposal)
Eaton Landfill (pesticides/shallow ground water)
Valmont Butte (low level rad waste/licensed through
RCRA)
Tony Cito (chemical disposal pits)
Edmondston (cans of malathion)

HRS

Western Wood Site (data gaps)

AGENDA
EPA/CDH
March 4, 1992
page 2/2

III. 1992/1993 EPA/CDH Cooperative Agreement

Potential PAs
smelters
town gas

Potential SIs
Ft. Lupton (data gap focus)
Washington & Forest (carbon tetrachloride plume)
Limon Elevator (surface water focus)
Wolf Tongue (mill site)
Conservation Services, Inc. (inclusive of Tri-County
Landfill)

IV. PA SCORE

expectations
PA reporting requirements
health & safety plan
site visit report
appearance of PA from printout

V. Other Issues

CSMRI SI status
In process of developing in house checklist for
pre-CERCLIS discovery format



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

JUN 30 1992

Ref: 8HWM-SM

MEMORANDUM

TO: Dave Schaller/Judy Wong
RCRA subtitle D program

FROM: Pat Smith, Site Assessment Manager
Superfund Technical Section

SUBJECT: Erie/Columbine Landfill
Weld County, Colorado

A handwritten signature in black ink, appearing to read "P. Smith", written over the "FROM:" line of the memorandum.

I have completed my site work at the Erie/Columbine Landfill complex in Weld County, Colorado. There is still no case to be made for an NPL candidate under Superfund. Although we have confirmed a release to ground water in the area, we would need a very large target population since hits to the drinking wells do not have benchmarks (as is the case for the tentatively identified compounds (TICs) we found).

There are a number of TICs identified in the drinking water wells. The TICs found in source samples are generally in the volatile range while the TICs found in the drinking water wells are in the semi-volatile range. An information request was sent to IBM to better identify wastestreams which have been put into the landfill and to try to correlate these to the hits in the wells. Art Palomares (usually of EPA ESD, but on detail right now to 8HWM-SR) assisted me in analysis of the organic chemical associations. Ketones described in the 104e response may be associated with the TIC in the Horst well at return time 7.07 minutes. A TIC at return time 36.92 in the Zahn well might be a pesticide which may be associated with home use. Esters found in the drinking water wells could be from the home use of paints, and cleaning of painting equipment.

Numerous hydrocarbons reported in the 104e response could mobilize contaminants some distance. The local residents are concerned that migration could occur via cavern porosity in the coal mined area or via fracture porosity. If hydrocarbons are mobilizing the contaminants, the coal in the mines is not likely to be any kind of an effective filter for these substances.

Please share this information with your state counterparts. I will send a copy of the 104e analysis to Austin Buckingham, my

Superfund counterpart at the state. My files remain open to you as needed. A copy of the 104e response and the contractor review is attached.

Attachment

cc: Austin Buckingham



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

PA/WLD/COC
AGENCY

JUL 24 1992

Ref: 8HWM-SM

Ms. Marilyn Brand
Concerned Citizens of Erie
8897 Baseline Road
Lafayette, Colorado 80026

Dear Ms. Brand:

My review of several studies by EPA at the **Erie/Columbine landfill** complex is complete. A case cannot be made to recommend this site to the National Priority List under Superfund. A No Further Remedial Action Planned (NFA) flag was placed in the Superfund database (CERCLIS) on June 19, 1992, for the record. I have referred this decision of NFA under Superfund to EPA's RCRA subtitle D program so they may coordinate with the State Solid Waste program.

The basis for the decision of no further action is grounded in the Hazard Ranking System rule dated December 14, 1990, published in the Federal Register in 40 CFR part 300, Appendix A. Only about 3.5% of all sites in CERCLIS are placed on the National Priority List. A release to ground water is not sufficient by itself to make a candidate for the National Priority List.

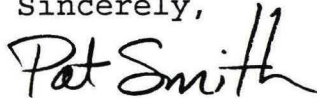
Regardless of whether this site is a candidate for the National Priority List, a number of tentatively identified compounds (TICs) were identified in some domestic drinking water wells in our sampling last year. Repeat sampling in October 1991 did not confirm these results.

Before setting off a false alarm (in case they could be common substances), I did some extra research in trying to tie the earlier TICs to the landfill. I could not make a strong case for any of them. My EPA chemist advises me that many of the TICs could be related to substances commonly found in household use, in our garages, so the TICs were not clearly related to the disposal sites identified nearby. Since they are tentatively identified, we cannot accurately define the structure, concentration, or behavior of the TICs.

I have enclosed the August 1991 Sample Activity Report and the follow-up analyses. The file for this site has become quite thick. I would encourage you to make an appointment to come to

the records center to identify any additional file information which you may want copied for your use if you have additional concerns. You may call Linda Armer at (303)294-7666 to arrange this.

Sincerely,

A handwritten signature in black ink that reads "Pat Smith". The signature is written in a cursive style with a large, stylized "P" and "S".

Pat G. Smith
Site Assessment Manager

Enclosures

cc: Austin Buckingham, CDH
Dave Schaller, EPA 8HWM-WM
Linda Armer, EPA 8HWM-SM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

JUL 24 1992

Ref: 8HWM-SM

Ms. Rosemary Zahn
3211 Johnson Lane
Erie, Colorado 80516

Dear Ms. Zahn:

My review of several studies by EPA at the Erie/Columbine landfill complex is complete. A case cannot be made to recommend this site to the National Priority List under Superfund. A No Further Remedial Action Planned (NFA) flag was placed in the Superfund database (CERCLIS) on June 19, 1992 for the record. I have referred this decision of NFA under Superfund to EPAs RCRA subtitle D program so they may coordinate with the State Solid Waste program.

The basis for the decision of no further action is grounded in the Hazard Ranking System rule dated December 14, 1990, published in the Federal Register in 40 CFR part 300, Appendix A. Only about 3.5% of all sites in CERCLIS are placed on the National Priority List. A release to ground water is not sufficient by itself to make a candidate for the National Priority List.

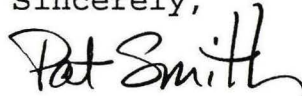
Regardless of whether this site is a candidate for the National Priority List, a number of tentatively identified compounds (TICs) were identified in some domestic drinking water wells in our sampling last year. Repeat sampling in October 1991 did not confirm these results. Repeat sampling in your well indicated low concentrations of phthalates, which are common lab contaminants and commonly associated with PVC wells.

Before setting off a false alarm (in case they could be common substances), I did some extra research in trying to tie the earlier TICs to the landfill. I could not make a strong case for any of them. My EPA chemist advises me that many of the TICs could be related to substances commonly found in household use, in our garages, and the TICs were not clearly related to the disposal sites identified nearby. Since they are tentatively identified, we cannot accurately define the structure, concentration, or behavior of the TICs.

I have enclosed the August 1991 Sample Activities Report and the follow-up analyses. The file for this site has become quite

thick. I would encourage you to make an appointment to come to the records center to identify any additional file information which you may want copied for your use if you have additional concerns. You may call Linda Armer at (303)294-7666 to arrange this.

Sincerely,

A handwritten signature in black ink that reads "Pat Smith". The signature is written in a cursive style with a large, stylized "P" and "S".

Pat G. Smith
Site Assessment Manager

Enclosures

cc: Austin Buckingham, CDH
Dave Schaller, EPA 8HWM-WM
Linda Armer, EPA 8HWM-SM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

JUL 24 1992

Ref: 8HWM-SM

Mr. Dan Horst
2240 Weld County Road
Erie, Colorado 80516

Dear Mr. Horst:

My review of several studies by EPA at the Erie/Columbine landfill complex is complete. A case cannot be made to recommend this site to the National Priority List under Superfund. A No Further Remedial Action Planned (NFA) flag was placed in the Superfund database (CERCLIS) on June 19, 1992 for the record. I have referred this decision of NFA under Superfund to EPAs RCRA subtitle D program so they may coordinate with the State Solid Waste program.

The basis for the decision of no further action is grounded in the Hazard Ranking System rule dated December 14, 1990, published in the Federal Register in 40 CFR part 300, Appendix A. Only about 3.5% of all sites in CERCLIS are placed on the National Priority List. A release to ground water is not sufficient by itself to make a candidate for the National Priority List.

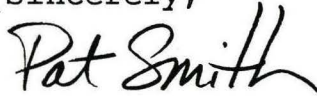
Regardless of whether this site is a candidate for the National Priority List, a number of tentatively identified compounds (TICs) were identified in some domestic drinking water wells in our sampling last year. Repeat sampling in October 1991 did not confirm these results.

Before setting off a false alarm (in case they could be common substances), I did some extra research in trying to tie the earlier TICs to the landfill. I could not make a strong case for any of them. My EPA chemist advises me that many of the TICs could be related to substances commonly found in household use, in our garages, so the TICs were not clearly related to the disposal sites identified nearby. Since they are tentatively identified, we cannot accurately define the structure, concentration, or behavior of the TICs.

I have enclosed the August 1991 Sample Activities Report and the follow-up analyses. The file for this site has become quite thick. I would encourage you to make an appointment to come to

the records center to identify any additional file information which you may want copied for your use if you have additional concerns. You may call Linda Armer at (303)294-7666 to arrange this.

Sincerely,

A handwritten signature in black ink that reads "Pat Smith". The signature is written in a cursive style with a large, stylized "P" and "S".

Pat G. Smith
Site Assessment Manager

Enclosures

cc: Austin Buckingham, CDH
Dave Schaller, EPA 8HWM-WM
Linda Armer, EPA 8HWM-SM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

JUL 24 1992

Ref: 8HWM-SM

Ms. Dorothy Shamy
2240 Weld County Road
Erie, Colorado 80516

Dear Ms. Shamy:

My review of several studies by EPA at the Erie/Columbine landfill complex is complete. A case cannot be made to recommend this site to the National Priority List under Superfund. A No Further Remedial Action Planned (NFA) flag was placed in the Superfund database (CERCLIS) on June 19, 1992 for the record. I have referred this decision of NFA under Superfund to EPAs RCRA subtitle D program so they may coordinate with the State Solid Waste program.

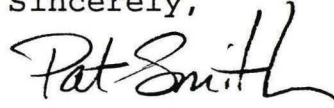
The basis for the decision of no further action is grounded in the Hazard Ranking System rule dated December 14, 1990, published in the Federal Register in 40 CFR part 300, Appendix A. Only about 3.5% of all sites in CERCLIS are placed on the National Priority List. A release to ground water is not sufficient by itself to make a candidate for the National Priority List.

Regardless of whether this site is a candidate for the National Priority List, a number of tentatively identified compounds (TICs) were identified in some domestic drinking water wells in our sampling last year. Repeat sampling in October 1991 did not confirm these results. Sampling of your well during the confirmation sampling event indicated low concentrations of phthalates, which are common lab contaminants and commonly associated with PVC wells.

Before setting off a false alarm (in case they could be common substances), I did some extra research in trying to tie the earlier TICs to the landfill. I could not make a strong case for any of them. My EPA chemist advises me that many of the TICs could be related to substances commonly found in household use, in our garages, so the TICs were not clearly related to the disposal sites identified nearby. Since they are tentatively identified, we cannot accurately define the structure, concentration, or behavior of the TICs.

I have enclosed the August 1991 Sample Activities Report and the follow-up analyses. The file for this site has become quite thick. I would encourage you to make an appointment to come to the records center to identify any additional file information which you may want copied for your use if you have additional concerns. You may call Linda Armer at (303)294-7666 to arrange this.

Sincerely,

A handwritten signature in black ink that reads "Pat Smith". The signature is written in a cursive, flowing style.

Pat G. Smith
Site Assessment Manager

Enclosures

cc: Austin Buckingham, CDH
Dave Schaller, EPA 8HWM-WM
Linda Armer, EPA 8HWM-SM

**FEDERAL
EXPRESS**PLEASE COMPLETE A
SEE BACK OF FORMFORMATION IN THE 5 BLOCKS OUTLINED IN ORANGE
OR COMPLETE PREPARATION INSTRUCTIONS.

AIRBILL NUMBER

865716084

YOUR FEDERAL EXPRESS ACCOUNT NUMBER

0802-1370-0

DATE

06/11/84



FROM (Your Name)

Scott H. Wilson

Waste Management Div

COMPANY

DEPARTMENT/FLOOR NO.

State of Colorado Dept. of Health

STREET ADDRESS

4210 E. 11th Ave.

CITY

Denver,

STATE

CO

TO (Recipient's Name)

Spectrix Corp

COMPANY

3911 F. B. Dr.

Suite 100

If Hold For Pick-Up or Saturday Delivery,
Recipient's Phone Number

DEPARTMENT/FLOOR NO.

STREET ADDRESS (P.O. BOX NUMBERS ARE NOT DELIVERABLE)

Houston, TX

CITY

Allen Chris Berry

STATE

AIRBILL NO.

865716084

ZIP ACCURATE ZIP CODE REQUIRED
FOR CORRECT INVOICING

80220

IN TENDERING THIS SHIPMENT, SHIPPER AGREES THAT
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AL OR CONSEQUENTIAL DAMAGES ARISING FROMZIP ACCURATE ZIP CODE REQUIRED
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PAYMENT ☒ Bill Shipper ☐ Bill Recipient's F.E.C. Acct. ☐ Bill 3rd Party F.E.C. Acct. ☐ Bill Credit Card☐ Cash In Advance

Account Number/Credit Card Number

SERVICES
CHECK ONLY ONE BOX

PRIORITY ONE (P-1) OVERNIGHT LETTER

☒ (OVERNIGHT PACKAGES)6 ☐ DROPPED OFF

COURIER PAK

7 ☐ PICKED UP BY FEDERAL
(2 or more pieces)2 ☐ OVERNIGHT ENVELOPE
(Up to 2 LBS.)8 ☐ PICKED UP BY FEDERAL -
1 LETTER ONLY (Higher
rate applies)3 ☐ OVERNIGHT BOX
(Up to 5 LBS.)9 ☐4 ☐ OVERNIGHT TUBE
(Up to 5 LBS.)

STANDARD AIR

5 ☐ DELIVERY 2ND BUSINESS
DAY FOLLOWING PICK-UPDELIVERY AND SPECIAL HANDLING
CHECK SERVICES REQUIRED1 ☐ HOLD FOR PICK-UP AT FOLLOWING
FEDERAL EXPRESS LOCATION SHOWN
IN SERVICE GUIDE.2 ☒ DELIVER3 ☐ SATURDAY SERVICE REQUIRED
See Reverse (Extra charge applies for delivery.)4 ☐ RESTRICTED ARTICLES SERVICE (P-1 and
Standard Air Packages only, extra charge)5 ☐ SSS (Signature Security Service
required, extra charge applies)6 ☐ DRY ICE _____ LBS.7 ☐ OTHER SPECIAL SERVICE _____8 ☐9 ☐PIECES WEIGHT DECLARED
VALUE O/S

1 60

1 35

1 45

TOTAL TOTAL TOTAL

RECEIVED AT

SHIPPER'S DOOR

☐ REGULAR STOP☐ ON-CALL STOP☐ F.E.C. LOC.

Federal Express Corporation Employee No.

DATE/TIME For Federal Express Use

6/11/84

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DECLARED VALUE CHARGE

AGT/PRO

ADVANCE ORIGIN

AGT/PRO

ADVANCE DESTINATION

OTHER

TOTAL CHARGES

"OVERNIGHT" IS DEFINED AS NEXT BUSINESS DAY
(MONDAY THROUGH FRIDAY). SEE SPECIAL
HANDLING FOR SATURDAY DELIVERY.PART
#2041735000
REVISION DATE
3/81 \$
PRINTED U.S.A.SHIPPER'S COPY
SHIPPER: ALWAYS REFER TO
BOTH ORIGINAL AIRBILL NUM-
BERS AND THIS CROSS REFERENCE
NUMBER WHEN MAKING INQUIRIES.

(pink)



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SEE BACK OF FORM FOR COMPLETE PREPARATION INSTRUCTIONS.

AIRBILL NUMBER

865716095



YOUR FEDERAL EXPRESS ACCOUNT NUMBER

0802-1370-0

DATE

06/14/84

FROM (Your Name)

Scott H. Winters, Waste Management, Inc.

TO (Recipient's Name)

Cambridge Analytical Assoc

If Hold For Pick-Up or Saturday Delivery,
Recipient's Phone Number

COMPANY

DEPARTMENT/FLOOR NO.

State of Colorado Dept. of Health

COMPANY

DEPARTMENT/FLOOR NO.

222 Arsenal Street

STREET ADDRESS

4210 E. 11th Ave.

STREET ADDRESS (P.O. BOX NUMBERS ARE NOT DELIVERABLE)

Watertown, Mass

CITY

Denver,

STATE

CO

CITY

Kenilworth, Mass

STATE

AIRBILL NO.

865716095

ZIP ACCURATE ZIP CODE REQUIRED
FOR CORRECT INVOICING

80220

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F.E.C. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL
OR CONSEQUENTIAL DAMAGES ARISING FROM

ZIP ACCURATE ZIP CODE REQUIRED
FOR OVERNIGHT DELIVERY

02172

YOUR NOTES/REFERENCE NUMBERS (FIRST 12 CHARACTERS WILL ALSO APPEAR ON INVOICE)

PAYMENT ☒ Bill Shipper ☐ Bill Recipient's F.E.C. Acct. ☐ Bill 3rd Party F.E.C. Acct. ☐ Bill Credit Card
☐ Cash In Advance Account Number/Credit Card Number

SERVICES
CHECK ONLY ONE BOX

PRIORITY ONE (P-1) OVERNIGHT LETTER
1 ☒ (OVERNIGHT PACKAGES) 6 ☐ DROPPED OFF

COURIER PAK 7 ☐ PICKED UP BY FEDERAL
(2 or more pieces)

2 ☐ OVERNIGHT ENVELOPE
(Up to 2 LBS.) 8 ☐ PICKED UP BY FEDERAL-
1 LETTER ONLY (Higher
rate applies)

3 ☐ OVERNIGHT BOX
(Up to 5 LBS.) 9 ☐ ☐

4 ☐ OVERNIGHT TUBE
(Up to 5 LBS.)

STANDARD AIR
5 ☐ DELIVERY 2ND BUSINESS
DAY FOLLOWING PICK-UP

"OVERNIGHT" IS DEFINED AS NEXT BUSINESS DAY
(MONDAY THROUGH FRIDAY). SEE SPECIAL
HANDLING FOR SATURDAY DELIVERY.

DELIVERY AND SPECIAL HANDLING
CHECK SERVICES REQUIRED

HOLD FOR PICK-UP AT FOLLOWING
FEDERAL EXPRESS LOCATION SHOWN
IN SERVICE GUIDE

1 ☐

2 ☒ DELIVER

3 ☐ SATURDAY SERVICE REQUIRED
(See Reverse (Extra charge applies for delivery))

4 ☐ RESTRICTED ARTICLES SERVICE (P-1 and
Standard Air Packages only, extra charge)

5 ☐ SSS (Signature Security Service
required, extra charge applies)

6 ☐ DRY ICE LBS.

7 ☐ OTHER SPECIAL SERVICE

PIECES WEIGHT DECLARED
VALUE O/S

1 27

TOTAL TOTAL TOTAL

RECEIVED AT
SHIPPER'S DOOR
☐ REGULAR STOP
☐ ON-CALL STOP
☐ F.E.C. LOC.

Federal Express Corporation Employee No.

DATE/TIME For Federal Express Use

6/14/84 1130

CARRIAGE HEREOF, F.E.C. DIS-
CLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, WITH
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AIRBILL SUBJECT TO CONDITIONS OF CONTRACT SET FORTH
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HIGHER VALUE, THE LIABILITY OF FEDERAL EXPRESS COR-
PORATION IS LIMITED TO \$100.00.

FEDERAL EXPRESS USE

FREIGHT CHARGES

DECLARED VALUE CHARGE

AGT/PRO

ADVANCE ORIGIN

AGT/PRO

ADVANCE DESTINATION

OTHER

TOTAL CHARGES

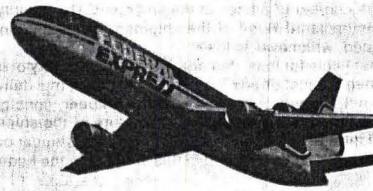
PART

#2041735000

REVISION DATE

3/81 S

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FEDERAL EXPRESS**AIRBILL**USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO.
QUESTIONS? CALL 800-238-5355 TOLL FREE.PACKAGE
TRACKING NUMBER

9037282472

9037282472



Sender's Federal Express Account Number

Date

1342-6590-6

3/19/91

From (Your Name) Please Print

Your Phone Number (Very Important)

To (Recipient's Name) Please Print

Recipient's Phone Number (Very Important)

AUSTIN BUCKINGHAM

303 331-4846

ELAIN WALTERS

619 453 0060

Company

Department/Floor No.

Company

Department/Floor No.

COLORADO DEPT. OF HEALTH

S-CUBED

Street Address

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)

4210 E. 11TH AVE

3398 CARMEL MOUNTAIN RD

City

State

ZIP Required

DENVER

Co

80220

San Diego

Ca

ZIP Required

92121

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)

IF HOLD FOR PICK-UP, Print FEDEX Address Here

PAYMENT

☒ Bill Sender☐ Bill Recipient's FedEx Acct. No.
Fill in Account Number below☐ Bill 3rd Party FedEx Acct. No.
Fill in Account Number below☐ Bill Credit Card
Fill in Credit Card Number below☐ Cash

City

State

ZIP Required

SERVICES

DELIVERY AND SPECIAL HANDLING

PACKAGES

WEIGHT

YOUR DECLARED
VALUE
(See right)OVER
SIZESERVICE CONDITIONS, DECLARED VALUE
AND LIMIT OF LIABILITY

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

PART #2041738900
REVISION DATE 1/88

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009

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1 ☒ PRIORITY 1
Overnight Delivery6 ☐ OVERNIGHT
LETTER*2 ☐ COURIER-PAK
OVERNIGHT
ENVELOPE*7 ☐3 ☐ OVERNIGHT
BOX8 ☐4 ☐ OVERNIGHT
TUBE9 ☐5 ☐ STANDARD
AIR Delivery
not later than
second business day10 ☐

*Declared Value Limit \$100.

1 ☐ HOLD FOR PICK-UP (Fill in Box H)2 ☒ DELIVER WEEKDAY3 ☐ DELIVER SATURDAY (Extra charge)4 ☐ DANGEROUS GOODS
(Extra charge)5 ☐ CONSTANT SURVEILLANCE SERVICE (CSS)
(Extra charge) (Release Signature Not Applicable)6 ☐ DRY ICE Lbs.7 ☐ OTHER SPECIAL SERVICE9 ☐ SATURDAY PICK-UP
(Extra charge)10 ☐11 ☐12 ☐ HOLIDAY DELIVERY (If offered)
(Extra charge)

LBS

LBS

LBS

LBS

Total Total Total

Received At

1 ☐ Regular Stop2 ☐ On-Call Stop3 ☐ Drop Box4 ☒ B.S.C.5 ☐ Station

FEDEX Corp. Employee No.

118868

Date Time for FEDEX Use

3.19.91

Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

Release
Signature:

ORIGIN COPY



AIRBILL

USE THIS AIRBILL FOR DOMESTIC SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE
TRACKING NUMBER

9037282450

9037282450

SENDER'S COPY

Sender's Federal Express Account Number		Date	
From (Your Name) Please Print		Your Phone Number (Very Important)	
To (Recipient's Name) Please Print		Recipient's Phone Number (Very Important)	
Company		Department/Floor No.	
Street Address		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. * Zip Codes.)	
City		State	
ZIP Required		ZIP Required	

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)

IF HOLD FOR PICK-UP, Print FEDEX Address Here

PAYMENT <input type="checkbox"/> Bill Sender <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card		Street Address	
<input type="checkbox"/> Cash		City	
		State	
		ZIP Required	

SERVICES		DELIVERY AND SPECIAL HANDLING		PACKAGES	WEIGHT	YOUR DECLARED VALUE (See right)	OVER SIZE
1 <input type="checkbox"/> PRIORITY 1 Overnight Delivery	6 <input type="checkbox"/> OVERNIGHT LETTER*	1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box H)			LBS		
2 <input type="checkbox"/> COURIER-PAK OVERNIGHT ENVELOPE*	7 <input type="checkbox"/>	2 <input type="checkbox"/> DELIVER WEEKDAY			LBS		
3 <input type="checkbox"/> OVERNIGHT BOX	8 <input type="checkbox"/>	3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge)			LBS		
4 <input type="checkbox"/> OVERNIGHT TUBE	9 <input type="checkbox"/>	4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge)			LBS		
5 <input type="checkbox"/> STANDARD AIR Delivery not later than second business day	10 <input type="checkbox"/>	5 <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Release Signature Not Applicable)					
* Declared Value Limit \$100.		6 <input type="checkbox"/> DRY ICE Lbs.					
		7 <input type="checkbox"/> OTHER SPECIAL SERVICE					
		8 <input type="checkbox"/>					
		9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)					
		10 <input type="checkbox"/>					
		11 <input type="checkbox"/>					
		12 <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)					

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY			
Use of this airbill constitutes your agreement to the service conditions in our current Service Guide which is available upon request. See back of sender's copy of this airbill for further information.			
We will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay or non-delivery, unless you specify a higher amount in this space to the left, pay 40¢ per additional \$100 specified and document your actual loss in the event of a claim. Maximum amount limitations found in the current Federal Express Service Guide apply. Your rights to recover from Federal Express for loss of the intrinsic value of the package, as well as for loss of sales, income, interest, profit, attorneys fees, costs and any other form of damage whether direct, incidental, consequential or special is limited to the greater of \$100 or the declared value specified to the left. In no event shall your recovery exceed your actual loss.			
In the event of untimely delivery, Federal Express will at your request and with some limitations, refund all transportation charges paid. See Service Guide for further information.			
Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.			
Release Signature: _____			

Federal Express Use	
Base Charges	
Declared Value Charge	
Other 1	
Other 2	
Total Charges	

PART #2041738900
REVISION DATE 1/88
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SENDER'S COPY

9037282450



U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22303-703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number

MH 0976

① Case Number: 2903
Sample Site Name/Code: Pratt Property / Columbus
Landfill
PR-TH-1

② SAMPLE CONCENTRATION
(Check One)
☒ Low Concentration
☐ Medium Concentration

③ SAMPLE MATRIX
(Check One)
☒ Water
☐ Soil/Sediment

④ Ship To: Cambridge Analyt. Assoc.
222 Arsenal Street
Watertown, MASS 02172

Attn: Keith Hausknecht

Transfer
Ship To:

⑤ Sampling Office: Columbus
Sampling Personnel: Scott H. Winters
(Name) 320-8333 4-6333
(Phone) 6/4/84
Sampling Date: 6/13/84
(Begin) 6/13/84 (End) 6/13/84

⑥ Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 06/14/84

Airbill Number: 865716095

⑦ Sample Description:
(Check One)
☒ Surface Water
☐ Ground Water
☐ Leachate
☐ Mixed Media
☐ Solids
☐ Other _____
(specify)

⑧ Mark Volume Level
On Sample Bottle

Check Analysis required

☒ Task 1 & 2

☐ Task 3 Ammonia

Sulfide

Cyanide

MATCHES ORGANIC SAMPLE NO. 11601

Bottle label # 34020082

REGIONAL OFFICE FILE COPY